January 15, 2003

Mr. W.W. Barker
Administrative Services Division
Virginia Department of Transportation
1st Floor Reception Desk
1201 E. Broad Street
Richmond, Virginia 23219

Re: Phase One Conceptual Proposal – Improvements to I-81 Corridor

Dear Mr. Barker:

STAR (Safer Transport and Roadways) Solutions appreciates this opportunity to present our Phase One Conceptual Proposal for consideration to design-build-finance-operate the widening of I-81, provide a 20-year pavement warranty and operate an electronic truck tolling system under a public-private partnership. STAR Solutions is a strategic collaboration of long-time Virginia and internationally prominent design and construction firms who bring solid capabilities and financial strength to this project. We offer unique qualifications, including:

- **An innovative financing approach that completes the entire 325 miles within 15 years.** Our financing plan identifies new federal funding specifically for I-81 in addition to generating new revenues from tolls on heavy commercial vehicles. Use of this plan offers a realistic means of completing the project without a revenue shortfall in later years.
- **A commitment to developing a plan that improves traffic flow and public safety.** The STAR Solutions' concept promotes the separation of passenger vehicles and heavy trucks by adding physical barriers throughout the corridor. This plan — coupled with enhancing intermodal options, designing longer on- and off-ramps and installing electronic signage and communication systems — will greatly improve mobility and reduce congestion.
- **A strong background and a solid reputation in partnering.** The STAR Solutions project team will be a true partnership in the sense that all team members are committed, as a single group entity, to the execution of the project and in working with VDOT. Partnering sessions between VDOT and our project team will capitalize on synergies of project experience and local knowledge.

We have enclosed a check for $10,000 for the proposal review fee. In addition, STAR Solutions acknowledges that all costs associated with the preparation of this proposal are borne exclusively by the project team and will not be submitted for reimbursement at any future time.

If you have any questions regarding our proposal, please do not hesitate to call me at (804) 225-0530. We look forward to visiting with you about the ways that STAR Solutions can help you achieve your transportation goals.

Sincerely,

James W. Atwell

James W. Atwell
STAR Solutions Team Member

Table of Contents

Tab 1 Qualifications & Experience

1.a Legal and Organizational Structure

Identify the legal structure of the private entity making the proposal. Identify the organizational structure for the project, the management approach and how each firm, partner, contractor and major subcontractor in the structure fits into the overall team.

Safer Transport and Roadways (STAR) Solutions submits this proposal to the Virginia Department of Transportation (VDOT) to design, build, operate and finance the widening of Interstate 81 (I-81), provide a 20-year pavement warranty and operate an electronic truck tolling system under a public-private partnership. The improvements will run 325 miles, the entire length of I-81, from the City of Bristol to the West Virginia state line north of Winchester.

STAR Solutions is a consortium led by long-time Virginia and world-class design and construction firms with previous VDOT experience, bringing expertise in all specific subject areas as well as financial strength. The distinguishing advantage that VDOT receives from this team is STAR Solutions has been working on a solution for I-81 for two years. Our team has developed design concepts, performed constructability review, developed a feasible financial plan and secured federal funding sources beyond VDOT's normal appropriations. Additionally, our team members have proven highway and road experience to deliver a complete solution and obtain input and support from stakeholders. The STAR Solutions team includes:

- APAC, Inc.
- Adams Construction Company
- English Construction Company, Inc.
- KBR, Inc.
- Koch Performance Roads, Inc.
- Lehman Brothers
- Morgan Keegan & Company, Inc.
- Salomon Smith Barney
- W-L Construction & Paving, Inc.
- Wilbur Smith Associates

A successful project begins with a strong team. For two years, STAR Solutions team members have worked together analyzing the I-81 corridor and identifying cost-effective solutions.

Public-private partnerships are most successful when there is truly a partnership between the private sector and VDOT. There are tremendous benefits to a project when both the public and private sectors work together to formulate solutions and implement and execute it. STAR Solutions is committed to partnering with VDOT every step of the way. If we are selected to develop I-81, we want to be a member of VDOT's team, with VDOT actively participating in the design of the project. We view this partnership spanning through construction and O&M.

Legal Structure

STAR Solutions is a strategic collaboration developed to provide VDOT with the best possible combination of local knowledge and experience, management expertise, technical capabilities, financial strength and quality resources needed to improve I-81. KBR, Inc., hereinafter referred to as KBR, is the principal contractual entity of the team. We understand that teamwork is achieved through communication and coordination, combined with proven project management processes. These are key ingredients to successfully developing the cooperation necessary to blend multiple participants into a cohesive solution-oriented team with a common focus.

1.a Legal and Organizational Structure

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Organizational Structure and Management Approach

STAR Solutions' approach to forming this team more than two years ago was built on principles that include a commitment to Virginia firms, depth of staff resources, proven track record, successful performance with VDOT and special expertise needed for the work. All members of our team are committed as a single group entity to the execution of this project. STAR Solutions will be directly accountable to VDOT and other involved entities, proactively establishing and maintaining confidence in the project team's performance.

We will use each team member's resources to build a seamless organization that is responsive to the needs of the project and to the flexibility and innovative potential of the design-build-operate-finance contract. This structure allows a fast-track approach with concurrent engineering and construction programs. The project team will function with one fully integrated "project umbrella" organization of management, supervision, support and services staff, drawing upon the strength and diversity from each team member, eliminating unnecessary duplication of functions. With the synergy created by combining the experience, financial resources and technical know-how of these firms, STAR Solutions possesses the strength to see this project through to successful completion.

We have significant resources in Virginia and are committed to the Commonwealth and VDOT.

The STAR Solutions' management approach will draw on the experience and expertise of the customer, team members and individuals responsible for various activities to ensure the project is designed and built to meet cost, quality, and schedule. The management approach will flow from the comprehensive agreement and individual team agreements. Those parties identified in the organizational chart on page 1-3 will manage responsibilities and risk allocation within their specific roles. The lead program manager for the project is KBR. KBR's project manager will orchestrate the entities and activities underway and will be the primary point of contact with VDOT. We will work with VDOT to ensure that we create an environment where the STAR Solutions team works effectively with the VDOT project team. The project manager will rely heavily on the Executive Project Management team and in turn each major activity team as the work progresses.

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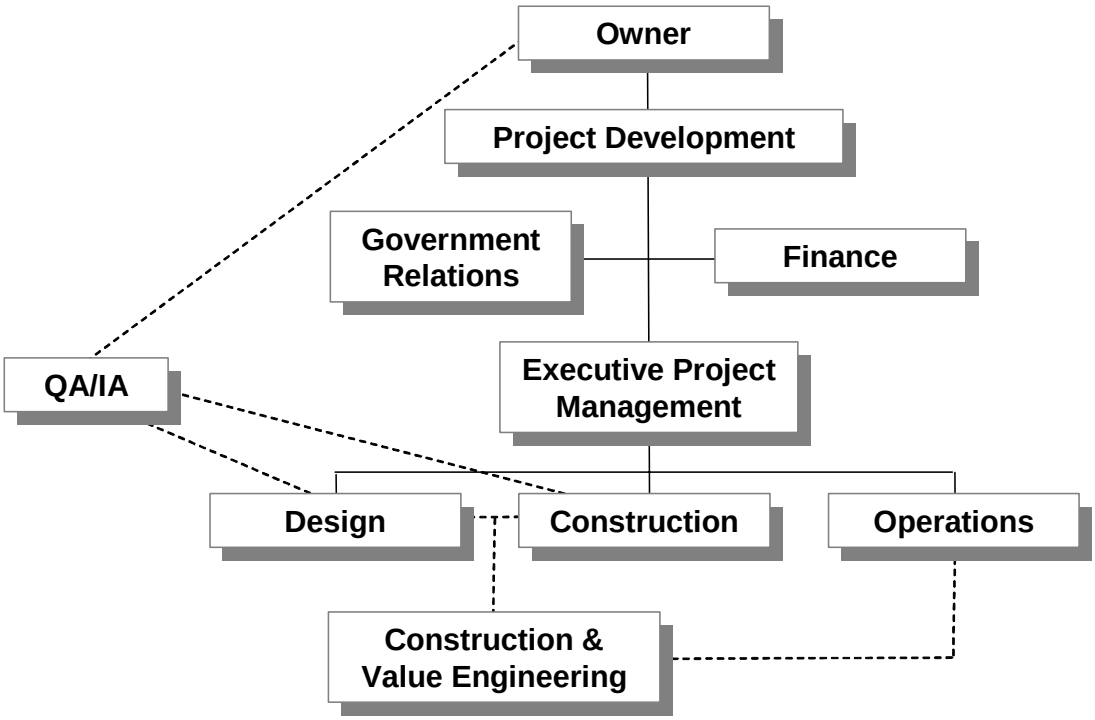
STAR Solutions' Organizational Structure



STAR Solutions' Functional Teams

Owner	
Role: Contract and Legal	• VDOT = Principal Leader • FHWA = Partner • Commonwealth of Virginia = Partner
Project Development (PD) Team	
Role: Proposal development, customer and affected 3rd party needs, team creation and team agreements	• KBR = Principal Leader PD team • Koch Performance Roads = Co-Leader PD team
Government Relations (GR)	
Role: Public relations, fiscal support and customer satisfaction	• McGuireWoods Consulting = Principal GR team leader • Koch Performance Roads = Team member (principal construction PR) • Public/Private Strategies Consult = Team member

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Finance	
Role: Bonding and financial risk assessment	• Salomon Smith Barney = Principal team leader • Commonwealth Service Company = Team member • Lehman Brothers = Team member • Morgan Keegan & Company = Team member
Executive Project Management (EM) Team	
Role: Quality, engineering, schedule and cost	• KBR = Principal Leader EM team • APAC = Phase leader • Adams Construction Company = Phase leader • W-L Construction & Paving = Phase leader • English Construction Company = Phase leader • Salomon Smith Barney = Team member • Koch Performance Roads = Team member • Wilbur Smith Associates = Team member
Design	
Role: Plans –Environmental/bridge/ geometric/pavement/hydraulic/traffic and specifications	• Wilbur Smith Associates = Principal team leader • American Consulting Engineers = Section leader • KBR = Team leader member • Thompson + Litton = Team member • CH2M Hill = Team member • Earth Tech = Section leader • Greenhorne & O'Mara = Team member • HDR = Team member • HNTB = Team member • Hayes, Seay, Mattern & Mattern = Section leader • Koch Performance Roads = Pavement designer • Michael Baker Jr. = Team member • Parsons Brinckerhoff = Section leader • Qk4 = Team member • Rummel, Klepper & Kahl = Team member • SITE-Blauvelt Engineers = Team member • URS Corporation = Section leader

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Construction	
Role: Build it on schedule, on budget, on quality	• KBR = Principal team leader • APAC = Phase leader • Adams Construction Company = Phase leader • Branch Highways = Team member • English Construction Company = Phase leader • Fairfield Skanska = Team member • Lanford Brothers = Team member • Moore Brothers Company = Team member • W-L Construction & Paving = Phase leader
Operations	
Role: Tolling and facility maintenance	• TransCore = Principal team leader (tolling) • Koch Performance Roads = Principal team leader (warranty) • Northrop Grumman = Team member • Iteris = Team member
Construction & Value Engineering	
Role: Construction support value proposal	• KBR = Principal team leader • Wilbur Smith Associates = Co-team leader *Includes all design and construction firms.*
Other Specialty Disciplines	
Austin Brockenbrough & Associates	Burgess & Niple
Hurt & Proffitt	The Louis Berger Group
TBE Group	Vanasse Hangen Brustlin
Volkert & Associates	Wiley & Wilson
Woolpert	

This project will be managed as a design-build type project with coincident activities conducted to ensure efficiency and lessons learned are incorporated into subsequent work. Construction and design will interact to ensure the best information is used to accomplish the project goals. The value engineering function will facilitate this iterative activity and will include operational considerations to promote life cycle cost valuation in addition to cost and schedule. Each major functional team will be responsible to advise and report to the executive management team to ensure coordination of schedule, quality and cost. Independent firms will be accountable to VDOT directly to manage quality assurance and independent assurance with the added protection of pavement quality managed in

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conjunction with the long-term performance warranty. The government relations and finance functions will be active initially and transform as the project design and construction begins into direct management of community relations and communications. Customer representation and input will be at the option of the customer for all teams identified in the organization.

Partnering efforts will be critical to this project to ensure that all entities have a clear understanding of the project's primary goals. The partnering process will be facilitated by a third party to set goals, enhance the team's performance, while still working within the contractual obligations and client expectations. Further, this partnering process will allow team members to reduce "red tape" by providing a pre-determined set of steps to make decisions, identifying a point person responsible for primary project functions, and developing a process for including key community leaders on project issues relevant to them.

An opportunity may exist for VDOT to participate in the construction and value engineering activities and benefits in conjunction with an equitable exchange of other project risks.

A primary management focus will be on management of risk. Those individual team members who are in the best position to manage those risks will be empowered to do so through teaming contracts that allocate risks, specify roles, responsibilities, authorities, and decision rights. For instance, allocation of federal design standard application to plans and specifications is most appropriate with registered professional designers who are identified on the team. Similarly, assignment of differing site conditions to a construction firm is more sensible. At this stage of project development, STAR Solutions expects that each major functional area previously identified will be managed by the Principal Team Leader, with shared risks with other team members of that functional area. Specific individual assignments will be made and personnel identified during subsequent project development activities.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

As previously outlined, the STAR Solutions partner team members include APAC, Adams Construction Company, English Construction Company, KBR, Koch Performance Roads, Lehman Brothers, Morgan Keegan & Company, Salomon Smith Barney, W-L Construction & Paving, and Wilbur Smith Associates. Collectively, these firms have more than 700 years experience in all aspects of transportation planning, design, construction and financing and are experienced in successfully delivering major projects for VDOT. Other members include key design firms and financial, operations, legal and public involvement consultants. Firms on our team have demonstrated their commitment to this project through exclusive teaming agreements.

This powerhouse of talent is only available to this PPTA proposal for I-81.Team members are exclusive to STAR Solutions.

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STAR Solutions Program Management

APAC, Inc.

APAC, the nation's largest asphalt and concrete paving company, has revenues of $2.7 billion. A subsidiary of Ashland, Inc., APAC's roots go back more than 100 years. From Frederick J. Warren's grant of a patent for Bithulithic pavement, Warren Brothers was merged with Ashland Oil and Refinery Company of Ashland, Kentucky. The name of the company was later changed to APAC.

APAC's 12,000 employees are part of Ashland's 25,000 customer-focused team working to bring superior product and service solutions to industries and consumers around the world. APAC operations are located in 14 states.

The STAR Solutions team includes APAC, the team leader for Route 288, who was awarded the 2002 International Road Federation's Global Road Achievement Award for design.

Route 288, Richmond, Virginia (PPTA Project)

APAC was the prime contractor for VDOT to deliver the $236 million Route 288 project. This project completes the western outer loop around Richmond and its scope includes 17.5 miles, including 10 miles of new four-lane highway and the expansion of seven miles of existing highway. There will be six new interchanges constructed and the two existing interchanges will be modified and expanded. Also included in the scope are the widening of two existing bridges and constructing 23 new bridges, two of which cross 150 feet above the James River.

Adams Construction Company

Adams Construction Company is the largest privately owned hot mixed asphalt producer in Virginia, currently producing more than one million tons per year. The firm was founded in 1946 and has paved numerous portions of the interstate highway system, as well as other highways in Virginia, North Carolina, Florida and West Virginia.

U.S. Route 460

Adams is currently working on the Christiansburg/Blacksburg Bypass on U.S. Route 460 in Montgomery County, Virginia. This project required 575,000 metric tons of hot mix, all produced and placed by the firm. Adams employs approximately 300 people and has asphalt plants strategically located along the I-81 corridor from Dublin in Pulaski County to near Woodstock in Shenandoah County, covering approximately 175 miles.

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Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

English Construction Company, Inc.

English Construction Company has been in the construction contracting business for 92 years. English is currently ranked as the 278th largest construction contractor in the U.S. by *Engineering News-Record*. Approximately 57 percent of the firm's revenues are from transportation-related projects, with the remainder coming from general building and water/wastewater projects.

The firm maintains a staff of more than 1,000 employees in construction and support teams that, under the leadership of 120 tenured personnel, have served as many as 40 concurrent projects. The English organization has extensive experience in highway and bridge construction performing an average volume of more than $100 million per year in roadway work. English is the principal contractor on Virginia's first PPTA project, Route 895, the Pocahontas Parkway. The firm was the recipient, with VDOT, of a 1996 award from the Associated General Contractors of America for excellence in partnering on a VDOT project in the Staunton District. English and VDOT shared this recognition on VDOT's first partnering project.

KBR, Inc.

KBR, Inc. is owned by Halliburton Company and is the lead firm in STAR Solutions. The firm's major lines of business include engineering, construction, project management and facilities maintenance. Brown & Root was founded in 1919 as a Texas road builder and grew into an engineering and construction business with more than 260 offices and 40,000 employees worldwide. Subsequent to a 1998 merger with Dresser Industries and the M.W. Kellogg Company, the Brown & Root engineering and construction business became KBR. KBR has a record of performance on lengthy trans-national links to complex interchanges and bridges and have been involved with several international tollroad and turnpike projects. The firm consistently ranks among the top five engineering and construction firms by *Engineering News-Record* and has more than 80 years of experience in staffing, managing and successfully completing construction projects throughout the world.

Dulles Greenway Toll Road, Virginia

The Dulles Greenway is a four-lane controlled access divided toll road running 14 miles from Dulles Airport west to Leesburg, Virginia. The Dulles Greenway was the first private toll road to be built in the U.S. in more than 100 years. In addition to being the lead firm in the design-build project, KBR took a 14 percent equity position in the project. KBR successfully managed more than $70 million in subcontracts while overseeing in-house work crews and all minor subcontracts associated with the project. At the same time, KBR had responsibility for providing the designer with a variety of design phase services.

KBR managed more than $70 million in subcontracts, contributing to completion of the Dulles Greenway without cost overruns or schedule delays.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

Koch Performance Roads, Inc.

Koch Performance Roads, Inc. is a wholly owned subsidiary of Koch Materials Company, the largest buyer and seller of asphalt products in the US and Mexico, currently operating about 100 terminals, laboratories and other facilities around North America. *Transportation Builder* recently ranked the firm 5th in its top 25 federal construction contractors.

Koch Performance Roads brings the experience of working with VDOT on projects like Route 288 to the STAR Solutions' I-81 Project.

Organized in 1996, and officially incorporated in 2000, Koch Performance Roads offers a unique and flexible approach to reduce life-cycle and user costs through an innovative process that integrates pavement design, local materials, project management, public information/involvement, safety, maintenance techniques and performance warranties.

The firm's performance warranty addresses pavement distresses such as rutting, cracking, potholes and smoothness. Koch Performance Road's ability to offer a warranty and assume risk traditionally held by DOTs is made possible through the use of several innovative and proprietary products and paving systems engineered to provide higher performance than conventional materials.

Route 288, Richmond, Virginia (PPTA Project)

Approximately 17.5 miles remain in completing the outer loop around Richmond, Virginia. Koch Performance Roads is part of APAC's team on this previously described project, which was named one of the top 10 projects in the U.S. by *Roads and Bridges*. Koch Performance Roads is responsible for asphalt pavement design, mix design, quality assurance and independent assurance. They are also managing the processes for keeping the public informed.

It is estimated that these innovative processes and the benefits that accrue from developing the project under the PPTA will save Virginia taxpayers $47 million. Koch Performance Roads will also provide a 20-year, performance-based asphalt pavement warranty that will all but eliminate the need for VDOT to expend resources for maintenance and repair of the pavement, thus allowing these resources for use on other roads within VDOT's maintenance and repair program.

New Mexico State Road 44 (Now US Route 550)

Mesa Project Development Contractor (PDC), a company owned by Koch Performance Roads, partnered with the New Mexico State Highway and Transportation Department (NMSHTD) to reconstruct and widen SR 44 (a NAFTA corridor highway) by the end of 2001. The project involved the reconstruction and widening of approximately 120 miles of a two-lane state highway northwest of Albuquerque into a four-lane facility, the only such corridor in the Four Corners Area. The project has received numerous awards, including the National Quality Initiative for its long-term pavement warranty.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

The project creates economic development opportunities in northwestern New Mexico, provides a first-of-its-kind performance-based warranty and sets a new standard for road construction in the state. According to calculations done by the state, the project could save the taxpayers $89 million.

NMSHTD contracted with Mesa PDC to manage and design the project, to develop construction contract packages for public bidding, to manage the successful bidders during construction, and to provide an extended warranty on the improvements.

Koch Performance Road's US 550 project involved widening 120 miles of two-lane highway to four lanes.

NMSHTD and Mesa arranged funding for the development and construction costs through GARVEE bonds issued by New Mexico. The bonds are secured by a pledge from the state of all FHWA funds designated for the project. The federal government also committed approximately $420 million to this project over the next 15 years.

Lehman Brothers

Founded in 1850, Lehman Brothers is a global investment bank with leadership positions in municipal finance, advisory, corporate finance and securities sales, trading and research. Lehman Brothers was the first to establish reliable public market access for power, waste-to-energy, toll road and gas pipeline projects.

Connector 2000 Association, Greenville, South Carolina

In February 1998, Lehman Brothers underwrote $200 million of Toll Road Revenue Bonds for the Connector 2000 Association, a South Carolina non-profit corporation established to facilitate the financing, construction and operation of the Greenville Southern Connector Project. The project consists of a 16-mile, four-lane tollway and 1.5-mile extension of South Carolina Route 153. Upon completion, the Connector will serve as the southeastern section of a beltway around the Greenville metropolitan area.

Morgan Keegan & Company, Inc.

Morgan Keegan is one of the South's largest investment firms. Through more than 140 offices in 13 states, Morgan Keegan serves individual investors in the Southern U.S. and institutional clients throughout the U.S. and abroad. They are members of the New York Stock Exchange and other major exchanges. Morgan Keegan & Company was acquired in March 2001 and became a subsidiary of Regions Financial Corporation, one of the nation's 25 largest bank holding companies. With more than 2,400 employees and more than $300 million in equity capital, Morgan Keegan is an established leader in the financial services industry in the South.

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Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

Salomon Smith Barney

Salomon Smith Barney (SSB) has been the leading senior manager in the municipal transportation sector in each year since 1997. During this period, SSB has underwritten more than 160 surface transportation issues with a total par value of more than $31 billion. These financings have included many new transportation credits, including new toll credits for the Central Texas Turnpike System, the Orange County (CA) Transportation Corridor Agencies, Highway 407 (Canada), and the New Jersey Turnpike Authority. Other new transportation credits developed and senior managed by SSB include Las Vegas Monorail, New Jersey Transit's and Michigan DOT's GARVEE programs, Route 3 North Transportation Improvements Association, and State DOT highway credits for Arizona, Colorado, Georgia, Kansas, Louisiana, Missouri and Oklahoma.

SSB serves public and private transportation clients with 12 New York-based transportation specialists and a network of experienced transportation bankers located in 18 U.S. regional offices. SSB's commitment to transportation is by far the largest of any investment banking firm and enables the firm to provide their clients with the highest quality service and depth of coverage for more than a decade. SSB's transportation practice encompasses all transportation modes — toll, highway, transit, passenger and freight rail, airports, seaports and parking — as well as product expertise in federal GARVEE and TIFIA initiatives. In developing and implementing the I-81 plan of finance, SSB is ready, willing, and able to commit all of the firm's significant resources to ensuring a successful, world-class financing program.

Central Texas Turnpike Project

The $2.2 billion financing for the Central Texas Turnpike Project, which SSB senior managed for the Texas Transportation Commission in August 2002, represents one of the largest and most innovative inaugural toll credits and is a new template for innovative use of the federal TIFIA credit assistance program. The closing of a TIFIA Secured Loan Agreement allowed SSB to structure "double A" rated bond anticipation notes ("BANs") for 40 percent of the financing. The project benefited from a cost-free forward interest rate hedge on the takeout financing for the BANs, since the fixed rate on the committed TIFIA Loan was established based on July 2002 market conditions. In addition, Texas DOT's funding of a portion of the project's capital costs and operating and maintenance expenses assisted in obtaining the best credit ratings ever achieved for a "greenfield" toll project.

W-L Construction & Paving, Inc.

W-L Construction & Paving, Inc. is primarily involved in grading, paving and stone crushing. Paving operations consists of 600,000-700,000 tons per year. The firm was founded in 1964 and has grown to be one of the larger contractors in Southwest Virginia with approximately 250 personnel. W-L is owned by Mountain Enterprises and performs in excess of $560 million per year.

Wilbur Smith Associates

Recognized as one of the nation's leaders in transportation planning and facilities, Wilbur Smith Associates (WSA) has completed more than 15,000 projects covering all 50 states, virtually every major metropolitan area in the U.S. and more than 100 nations throughout the world. Established in 1952, WSA maintains more than 35 offices in the U.S. and a network of overseas offices.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

The firm has been providing transportation engineering services in Virginia for more than 30 years and understands VDOT's issues. WSA maintains a staff of more than 75 roadway, bridge and traffic-engineering professionals in its Virginia offices. With this depth of personnel, WSA has the qualifications, experience and resources necessary to undertake challenging projects and accelerated schedules.

The STAR Solutions I-81 project brings the experience of transportation design leader Wilbur Smith Associates.

I-81 Improvements, Rockbridge County, Virginia

WSA is currently designing 11 miles of improvements to I-81. The project is one of the larger sections of current VDOT projects and is one of the first I-81 corridor projects to be let. Design includes widening from two to three lanes in each direction as well as the reconstruction of two interchanges, one of them a system interchange with I-64. The project also involves the design of a truck climbing lane for the entire length of the northbound roadway section, and evaluation, widening or replacement of 12 bridges.

Engineering

American Consulting Engineers PLC

American Consulting Engineers was formed in 1969 to meet the growing needs of the public in the transportation and civil engineering fields. American has operations in Virginia, Kentucky, Illinois, Indiana and Texas and employs a staff of more than 150 engineers, planners, surveyors and technicians. American specializes in freeway, expressway, and toll road planning and design, urban and rural highway and street design, and bridge planning and design. In 2001, the firm received the American Consulting Engineers Council's Grand Conceptor Award for Engineering Excellence for design of the Maysville Cable Stayed Bridge between Maysville, Kentucky and Aberdeen, Ohio.

CH2M HILL

For 56 years, CH2M HILL has been providing a full spectrum of services for the transportation industry, including planning, siting, permitting, engineering/design, and construction management. CH2M HILL maintains an integrated network of more than 200 offices around the world with more than 12,000 employees. The company is currently ranked 10th in transportation design by *Engineering News-Record*. CH2M HILL is part of the team providing design-build services for the 17.5-mile segment of Virginia Route 288, one of the largest projects awarded under the Commonwealth's Public-Private Transportation Act.

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Earth Tech

Earth Tech was founded in 1970 and is an international provider of global water management and transportation, engineering and environmental services. Earth Tech employs more than 8,000 people, has 160 offices worldwide and is a member of Tyco International, Ltd. The firm's transportation division serves corporate and public sector clients globally and is ranked by *Engineering News-Record* as a top 20 transportation design and management firm. Relevant experience includes preparing 1,000-mile corridor studies, providing program management for privatized toll roads and developing Intelligent Transportation Systems.

Greenhorne & O'Mara, Inc.

Founded in 1950, Greenhorne & O'Mara, Inc. (G&O) is a multidisciplinary engineering firm that employs nearly 700 professionals in more than 25 full-service and project offices along the Eastern seaboard. As a nationally recognized firm, G&O is currently ranked 118th by *Engineering News-Record* in its list of the top engineering firms in the US, and 40th in transportation services. Transportation services represent approximately 50 percent of their total business, and include right-of-way acquisition and utility coordination services. G&O has held multiple contacts with VDOT to perform utility relocation and design services since 1991 and has coordinated utilities on projects ranging in size from the Woodrow Wilson Bridge and Springfield Interchange in Northern Virginia to primary projects in the Bristol area. G&O also performed the utility coordination and relocation services on the Pocahontas Parkway (Route 895) project in Richmond.

HDR, Inc.

HDR is a full-service multi-disciplinary firm with more than 3,000 people employed in more than 60 offices nationwide. The firm has been in business since 1917 and since that time, repeat business stands at 80 percent, a clear indication of client satisfaction and confidence. Professional publications consistently rank HDR among the leading consulting and design firms. *Engineering News-Record* has ranked HDR as the number 20 firm in the United States this past year. HDR has worked in all 50 states and has served hundreds of local and municipal agencies throughout the United States.

HNTB Corporation

Founded in 1914, HNTB is one of the country's leading architecture, engineering, planning and construction services firms, providing services throughout the U.S. and around the world. With more than 3,000 employees and more than 60 offices nationwide, HNTB offers a full compliment of services across multiple disciplines, including surface transportation, aviation, architecture, environmental engineering, construction services, and urban design and planning. Listed as *Engineering News-Record's* 4th largest transportation firm, HNTB has provided design and construction services for federal, state and local agencies on highways in nearly every state and more than half of America's toll roads. HNTB's Virginia offices have nearly 40 years of history working with VDOT and in 1997 was recognized as "Consultant of the Year."

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Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

Hayes, Seay, Mattern & Mattern, Inc.

Founded in Roanoke in 1947, Hayes, Seay, Mattern & Mattern (HSMM) is one of Virginia's largest resident transportation design firms, with more than 55 years experience as a VDOT partner in planning, designing, and improving Virginia's transportation infrastructure. HSMM was one of the first consulting firms contracted by VDOT for interstate highway location and design work, beginning with the first segment of I-95 in Virginia, followed by numerous other significant projects throughout the state. HSMM has more than 450 skilled professional, technical and support personnel and is currently ranked 18th among U.S. engineering/architectural firms by *Building Design & Construction*. HSMM recently performed studies/designs for improvements on I-81 in the Winchester area, at the intersection with I-77 in Wytheville, and at the intricate Exit 150 upgrade. Further, the firm is a study/design partner in the Coalfields Expressway project, and completed preliminary studies for the proposed I-73 corridor and for widening U.S. Route 340 in Page and Warren Counties.

Design team members such as HSMM are experienced working in the I-81 corridor. Project shown is the upgrade of I-81 in Botetourt County.

Michael Baker Jr. Inc.

A 3,700-employee firm that provides environmental, engineering, construction management, planning and operation and maintenance services throughout the world, Baker has a rich history of providing consulting services on transportation projects for 50 years. The firm is consistently among the 50 largest engineering consulting firms and among the top 20 transportation engineering firms in the country. Baker is also one of the leading environmental consultants in Virginia and has been involved in numerous VDOT environmental projects, including some of the most complex and high-profile projects in the state.

Parsons Brinckerhoff Quade & Douglas, Inc.

Founded in 1885, Parsons Brinckerhoff Quade & Douglas, Inc. (PB) is one of the oldest continuously operating consulting engineering firms in the U.S. *Engineering News-Record* consistently ranks PB among the top transportation firms. With more than 9,000 employees throughout more than 300 offices worldwide, the firm provides comprehensive services in all elements of transportation planning, including traffic forecasting, corridor studies, Environmental Impact Statements for highway and transit projects, Major Investment Studies and public involvement programs, as well as preliminary engineering, final design and construction management services for highway and other transportation projects.

PB has been providing planning and engineering services for transportation projects throughout Virginia for more than 40 years, including the Richmond-Petersburg Turnpike and the Hampton-Roads Bridge Tunnel. PB was the lead designer for the Route 895 (Pocahontas Parkway) project – the first successfully completed project using the PPTA process. Over the years, VDOT

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

planning and design services for many of Virginia's most visible projects — from transportation planning for the Western Transportation Corridor Study in Northern Virginia, I-64 Major Investment Study between Richmond and Hampton Roads and I-73 Location Study in southwest Virginia, to engineering and design projects such as the Route 29 Bypass around Charlottesville and the replacement of the Coleman Bridge in Yorktown, Virginia.

Qk4

Qk4, established as Presnell Associates, Inc. in 1974, is one of the largest full-service, professional consultants based in the Commonwealth of Kentucky, and has eight operating offices throughout the country. The firm is ranked number 236 in the Top 500 Design Firms by *Engineering News-Record*. Qk4 has designed hundreds of miles of transportation infrastructure, ranging from residential roads and rural highways to major interstate highways. With 200 dedicated, experienced employees, Qk4 has thorough knowledge of FHWA and AASHTO design policies, NEPA, CEQ, NHPA, environmental permitting, and public involvement.

Rummel, Klepper & Kahl LLP

Rummel, Klepper & Kahl (RK&K) has been providing transportation design services throughout the mid-Atlantic and southeastern regions of the U.S. for more than 60 years. RK&K's expertise in transportation has propelled the company to rank among *Engineering News-Record's* national list on of the top 50 firms in transportation and the top 25 firms in highways. RK&K serves an array of federal, state and local governments and private clients from the southern limits of North Carolina to the northern limits of Pennsylvania. Current projects include providing right-of-way and construction plans for the reconstruction and widening of 4.6 miles of I-81 in Rockingham County and the City of Harrisonburg, including the complete reconstruction of the Exit 243 interchange within the city.

SITE-Blauvelt Engineers, Inc.

SITE-Blauvelt Engineers was founded in 1947 and has more than 450 professionals and technical support staff located in offices throughout the East Coast. The firm is currently rated the 38th largest transportation engineering firm in the country. For 45 years, SITE-Blauvelt has provided engineering design and QA inspection services to VDOT and served as the prime designer, geotechnical engineer and test boring contractor for a portion of the Pocahontas Parkway Route 895 project.

Thompson + Litton

Thompson+Litton (T+L) was established in Wise, Virginia in 1956. With a staff of 91 engineers, architects, land-use planners, construction administrators and grant/financing specialists, T+L has a proven track record of providing transportation-related planning as roadway design services, as well as natural resources data collection and analysis throughout Southwest Virginia. The majority of T+L's highway experience has been with the Virginia Department of Transportation; however, the firm is currently providing roadway design services to the Tennessee Department of Transportation and the West Virginia Department of Highways as well as several local government entities.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

URS Corporation

Over the past five years, URS has grown into one of the industry's leading engineering, environmental and construction services firms serving government agencies and private industrial and commercial companies worldwide. URS' professional staff includes engineers with expertise in the full spectrum of disciplines required for this project, including planners, scientists, environmental specialists, information management specialists, architects and construction managers. URS provides services for all types of infrastructure projects such as roads, bridges, tunnels, rail and transit systems, airports, water supply and wastewater facilities and power transmission and distribution facilities. Founded in 1951, URS is a publicly owned company listed on the New York and Pacific Stock Exchanges. The company has 15,600 employees and operations in 30 countries.

Financial

Commonwealth Service Company

Commonwealth Service Company was founded in 2000 by VDOT'S former Assistant Commissioner of Finance, James W. Atwell. The company provides a broad array of transportation consulting services. These services include legislative lobbying, project financing and public-private ventures. Its client base includes several large cities and counties in the Commonwealth, transportation advocacy groups and national project development and consulting engineering groups, as well as numerous state contracting and engineering firms. Either as a public employee or as the president of this company, Jim Atwell has been involved in almost all the PPTA projects since the program started in 1995.

Public Involvement

McGuireWoods Consulting LLC

McGuireWoods Consulting is a wholly-owned subsidiary of the McGuireWoods law firm and has been providing government relations, public relations and business expansion services for four years. Based in Richmond, Virginia, with offices in Tyson's Corner, Virginia and Washington D.C., McGuireWoods Consulting is the largest and most diverse public affairs firm in the Commonwealth.

The firm has played a role in two of the four successful PPTA proposals awarded to date in the Commonwealth. The MWC team worked closely with Koch Performance Roads and APAC on the Route 288 project in Chesterfield, Powhatan and Goochland Counties. McGuireWoods Consulting also provided government relations and community outreach assistance to Route 288 Corridor Improvements, LLC for the Route 288 widening project in Fairfax and Loudoun Counties. Outside of the PPTA process, McGuireWoods Consulting has represented a number of clients in helping to secure funding for transportation projects throughout Virginia, many of which have been significant economic development opportunities.

1.b Team and Key Principals' Experience

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Construction

Branch Highways, Inc.

Branch Highways is a Virginia corporation headquartered in Roanoke and has been successfully contracting in the Southeastern U.S. for more than 45 years. With full-service civil and heavy construction expertise, Branch's successfully completed work includes highways, bridges, site work for commercial, industrial, residential and resort projects, airport construction, dams, emergency response projects, and landfills. Recent individual contracts with the Virginia and North Carolina Departments of Transportation and other public agencies range from $1 million to more than $40 million. The firm's bonding capacity exceeds $350 million.

Our team includes Virginia's most experienced highway and paving contractors.

Fairfield Skanska, Inc.

In 1998, Echols Brothers, Inc. and Fairfield Bridge Company, Inc. were purchased by Skanska, Inc. The two companies were merged and the name was changed to Fairfield Skanska, Inc. The two predecessor companies, Echols Brothers and Fairfield Bridge Company had been in the road, bridge, utility and heavy construction business for 70 and 35 years, respectively. Fairfield Skanska continues with the same organization and experience of the two companies from which it was formed. Approximately 80 percent of the company's business is highway and bridge work for VDOT. Relevant projects include the bridges and approaches for Route 29 Bypass over the James River and the interchange for the Route 29 Bypass and Route 460, both near Lynchburg.

Lanford Brothers Company, Inc.

Lanford Brothers Company was founded in 1960 by J.C. and S.F. Lanford. Since then, the firm has operated continuously, providing highway and heavy construction services in Virginia, West Virginia, Tennessee, North Carolina and South Carolina, working for such clients as VDOT, West Virginia Department of Highways, and various cities, counties and turnpike authorities. Lanford Brothers has extensive experience operating in all types of weather and routinely provides services for bridge repairs, new bridge and box culvert construction, asphalt and concrete surface milling, and latex and polymer concrete overlays.

Moore Brothers Company, Inc.

Moore Brothers has been active in highway construction in Virginia since 1948, building many of the state's most traveled roads and bridges, including portions of Interstates 64, 66, 81, 85 and 495. As an increasing number of major construction projects have involved reconstruction and expansion of major urban highway systems, Moore Brothers has been a leader in solving the resultant issues of scheduling, traffic control, phased construction and safety. Proud to be the successful bidder on VDOT's first Contractor Quality Control (CQC) contract in 1996, Moore Brothers completed more than $35 million of construction on four subsequent CQC contracts.

1.b Team and Key Principals' Experience

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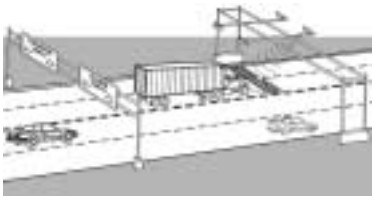
Operations

TransCore

TransCore, a privately held company, is the world leader in toll collection and services for mobile payment. With installations in 37 countries, more than 150 patents and a world-class manufacturing center, their expertise is unparalleled in the ground transportation services industry. Throughout the world, TransCore has been providing leading systems for intelligent transportation, parking and access control, rail and inter-modal asset tracking and toll and traffic violation enforcement for more than 60 years.



Team member TransCore will design a boothless electronic tolling system that will maintain smooth traffic flow.

Northrop Grumman Mission Systems

Northrop Grumman is the largest provider of systems integration and information technology systems and services to the U.S. Government and the single-largest employer in Virginia. Northrop Grumman is the only systems integrator with hands-on experience in both public safety and transportation management systems — designing, developing, delivering, operating and maintaining systems that help save lives. The firm is the leader in building Dispatch Command Centers and ITS Systems, bringing together all of the command, control, communications systems, emergency management and transportation components necessary to assure the public's safety.

Iteris, Inc.

Iteris, Inc., a subsidiary of Odetics, Inc., is the technology leader in systems and sensors for surface transportation. Iteris has combined outdoor image processing, traffic engineering, and information technology to offer a broad range of telematics and transportation solutions. The firm is a leader in the ITS industry, designing and implementing software-based solutions that enable public agencies to reduce traffic congestion and provide greater access to traveler information.

Other Specialty Disciplines

Austin Brockenbrough & Assoc., LLP

Austin Brockenbrough & Associates is a multi-discipline consulting engineering firm located south of Richmond, Virginia in Chester. Formed in 1955, Austin Brockenbrough & Associates provides civil engineering, surveying, mechanical engineering and electrical engineering services to a wide variety of public and private clients. The firm's services include transportation/highway design, site work and development, water and wastewater treatment facilities, utilities, environmental, GIS and other similar services ring and surveying services to governmental agencies, architects and private owners throughout the State of Virginia and beyond.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

Burgess & Niple, Inc.

Burgess & Niple (B&N) is a multi-disciplined consulting engineering firm providing specialized services for transportation, utility infrastructure, environmental, and land development projects. Founded in 1912 and ranked number 67 of the top 100 "pure" design firms by *Engineering News-Record,* in 2002, B&N has approximately 650 employees in 15 offices in the United States. B&N's Mid-Atlantic Region, which consists of five offices located in Virginia and Maryland, has been involved in the transportation design and construction industry in Virginia since 1974. In the past decade, B&N has been involved in many important transportation projects, including the Woodrow Wilson Bridge, Dulles Toll Road, Springfield Interchange, the Columbus Multi-Modal Transportation Terminal, the Discovery Bridge, and the Light Rail Study for the City of Richmond.

Hurt & Proffitt, Inc.

Hurt & Proffitt was founded in 1973 when Charles F. Hurt, PE & Associates merged with the land surveying firm of Erskine W. Proffitt, LS to provide professional consulting services. Since that time, the firm has grown to 85 employees. Hurt & Proffitt has a nearly 30-year history of providing comprehensive engineering, surveying and planning services to the public and private sectors of Virginia. The firm's public sector clients include counties, cities, towns, public service authorities, and various state agencies, including the Virginia Department of Transportation, the Virginia Department of Conservation and Recreation, the University of Virginia, Virginia Tech, James Madison University, and several community colleges. In 1996, Hurt & Proffitt instituted an Employee Stock Ownership Plan.

The Louis Berger Group, Inc.

Founded in 1953 as a soils mechanics and foundations engineering firm, The Louis Berger Group has one of the largest transportation planning practices in the world. The firm has been responsible for planning and designing thousands of miles of highways and major bridges around the world and has a distinguished record of award-winning designs for project ranging in size from rural roads to complex, multilane interchanges and state-of-the-art bridge structures. The Louis Berger Group also provides services in all facets of traffic engineering, including operations and parking studies, impact assessments and traffic engineering design.

Public/Private Strategies Consult, Inc.

Public/Private Strategies Consult, Inc. (PPS), formerly known as The DeLay Group, P.C., is a strategic planning and governmental affairs consulting firm based in Houston, Texas, with offices in Washington, D.C., Austin, Texas, and Huntsville, Alabama. PPS, specializing in civil infrastructure and economic development for 14 years, has provided innovative strategic planning, legal advocacy and intervention services to produce permanent, cost-effective public/private solutions to their clients' business and government related needs. The firm has been instrumental in multiple state and federal projects, including highway trade corridors such as Interstate 69, and led the initiative to establish the Border/Corridor funding category in TEA-21.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

TBE Group, Inc.

TBE Group is a full-service transportation consulting engineering company. Founded in 1984, TBE presently serves DOT clients in 38 states from 26 offices, including a Richmond, Virginia office. The firm offers full transportation planning, design and construction management services, as well as a wide variety of drainage, environmental, and permitting services. TBE is the national leader in Sub Surface Utility Engineering and Utility Coordination and is offering pre-qualified with VDOT for SUE Services as well as ROW Acquisitions Services and Cost-To-Cure Studies. TBE has been recently recognized as one of the industries fastest growing firms, ranked 234th by *Engineering News-Record,* with a staff of more than 400 engineers and technical personnel.

Vanasse Hangen Brustlin, Inc.

Headquartered in Watertown, Massachusetts, VHB/Vanasse Hangen Brustlin is a 700-person engineering, planning, and applied sciences firm that provides integrated transportation, land development, and environmental services to public, private and institutional clients. With 13 offices located throughout the eastern United States, VHB is currently ranked 95th in *Engineering News-Record's* listing of the top 500 design firms and 49th in the top 100 pure design firms. VHB has been involved with key components of the national transportation network, including highways, urban streets, railways, transit systems, ITS, and traffic management programs.

Volkert & Associates

Volkert & Associates continues to be ranked as one of the top engineering, architectural, planning, and environmental consulting firms in the United States. *Engineering News-Record's* Top 500 Design Firms Sourcebook 2002 ranks Volkert 198th overall and 47th in transportation out of the 500 firms listed. Since 1925, Volkert has been providing transportation services through two main divisions — roadways and structures. The firm's 13 offices are staffed by 600 multi-disciplined employees who provide services for major interstate projects, both rural interstate and urban expressway; state and county roads; interchange improvements; tunnels; and complex multilevel interchanges.

Wiley & Wilson, Inc.

Wiley & Wilson is a full-service professional architectural and engineering firm, serving a broad range of clients. The firm maintains four Virginia offices with approximately 125 persons composed of registered engineers, architects and planners as well as designers, CAD specialists, surveyors, resident inspectors, and other personnel. The firm has as long history in providing roadway design, bridge design and feasibility studies to VDOT.

Woolpert LLP

Founded in 1911, Woolpert LLP consistently ranks among the top national design firms in *Engineering News-Record's* annual evaluation. With offices located throughout the US, the firm is a privately held, limited liability partnership and employs more than 700 in-house professional and technical personnel. Founded in the early 1900s, Woolpert provides roadway design and inspection services, including urban and rural highway design, utility relocation design, noise barriers and pavement management. Woolpert provided roadway design on 28 miles of the I-95/697 Interchange in Stafford County, Virginia.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

Key Principals

The specialized expertise that STAR Solutions offers to VDOT is evidenced by the technical expertise of our staff, the multi-disciplined nature of the designated personnel and the overall quality of the services and deliverables that we will provide to VDOT. The following individuals will assure dedication of resources to accomplish this project:

John C. "Jack" Lanford, President and CEO, Adams Construction Company

Jack has held this position since 1985. Previously, he was a founder of Lanford Brothers Company, Inc., where he is presently chairman of the board. He is a graduate of the Virginia Military Institute with a B.S. in Civil Engineering. Jack has 48 years of experience in highway and heavy construction, having worked on projects in Virginia, West Virginia and North Carolina.

Charles Potts, President, APAC, Inc.

Charles received a B.S. degree in civil engineering from the Citadel in 1966 and a M.S. degree in civil engineering from West Virginia University in 1967. He is also a graduate of Harvard's Advanced Management Program. He is a registered professional engineer in Virginia, Florida and North Carolina. Charles is a recognized expert in the asphalt field. He is a member of the board of directors for the National Center for Asphalt Technology at Auburn University. He is a member of the board of directors and a member of the executive committee for both the National Asphalt Paving Association and the National Sand, Stone and Gravel Association.

Maura Dunn, Chief Operating Officer, KBR, Inc.

As COO for KBR's Infrastructure Americas region, Maura oversees the operations and marketing of projects, including design and construction of airport facilities, highways and environmental facilities. Prior to joining KBR, Maura was employed with the Virginia Department of Corrections where she was involved in the master planning and construction of nearly $1 billion of correctional facilities. She received her MBA from Averett College and a B.A. degree in Political Science from the University of Richmond.

Rick J. Volk, Vice President, Koch Performance Roads, Inc.

Rick is responsible for the successful implementation and completion of the STAR Solutions I-81 Project pavement design, construction, quality program and warranty. His role will be to ensure the team has the appropriate resources to complete the project to the satisfaction of VDOT. Rick is a civil engineer and attorney with more than 20 years experience in the transportation industry. He has recent experience with PPTA projects and has pioneered the use of innovative procurement processes and composite materials in civil infrastructure applications. Rick has managed toll facilities and is a former director of IBTTA, the leading international toll association.

Doug Dalton, President, English Construction Company, Inc.

With more than 30 years experience on roadway projects, Doug provides direction and oversight for the operations of English Construction Company. He has a B.S. degree in Economics from Randolph-Macon College and serves as a member of the board of directors for the Virginia Road & Transportation Builders Association.

1.b Team and Key Principals' Experience

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Charles Perry, Senior Vice President, Board of Directors, Wilbur Smith Associates

Charles is a civil engineer with more than 30 years of experience in all aspects of planning, design and construction of major civil works projects, including roadways, bridges, commuter rail stations and other transportation projects. Charles previously spent 18 years with VDOT, holding numerous positions, including Assistant State Construction Engineer, District Engineer for the Northern Virginia District and Chesterfield Resident Engineer. He also spent five years as Vice President of Engineering with a construction company that performed total site construction, including highways, parking facilities, drainage and utilities.

Kenneth Taylor, Vice President, W-L Construction & Paving, Inc.

Ken oversees the entire operation of the company, including all quarries, grading, estimating and paving operation. He has been with the company for more than 20 years. His undergraduate degree is in civil engineering technology and he has more than 30 years of experience in roadway construction, design and testing.

Other key individuals who will provide experienced leadership on this project include:

Randolph L. DeLay, Chairman and CEO, Public/Private Strategies Consult, Inc.

Randy specializes in strategic planning and public private partnerships. He has more than 30 years of experience in the fields of law, business management and governmental affairs. Randy has initiated and deployed numerous federal, multi-state and bi-national civil infrastructure projects, including the Border/Corridor funding program in TEA-21 and the I-69 eight-state Trade Corridor Initiative.

Thomas Bradshaw, Managing Director, Manager of Transportation Finance Group, Salomon Smith Barney

Tom has senior-managed transportation financings for an extensive list of transportation issuers, including the Arizona Transportation Board, Alabama and Montana Highway Departments, Indiana and Virginia Departments of Transportation, Dallas Area Rapid Transit, Los Angeles County Transportation Commission, New York Metropolitan Transportation Authority, Orange County Transportation Corridor Agencies, Contra Costa County Transportation Authority, San Bernardino Transportation Authority, and San Diego Transportation Commission.

He has also negotiated turnpike financings for Florida, Illinois, Kentucky, Massachusetts, New Hampshire, New Jersey, Oklahoma, Texas, and Harris County, Texas. Tom is currently a member of the Southern Growth Policy Board and the American Road and Transportation Builders Association. Prior to beginning a career as an investment banker, he served as Secretary of Transportation for North Carolina from 1977 to 1981.

1.b Team and Key Principals' Experience

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Tim Wilschetz, Senior Vice President of Transportation and Project Finance, Lehman Brothers

Tim has 18 years of experience in infrastructure finance and development, including arranging the financing for a wide variety of transportation-related facilities. His recent experience includes structuring financing for new highway projects such as the Coalfields Expressway in Southwest Virginia, and the Camino Colombia Toll Road near Laredo, Texas, as well as working (along with team member Salomon Smith Barney) to finance the Texas Turnpike Authority's $3.2 billion Central Texas Turnpike Project.

Tim also works with established agencies such as the North Texas Tollway Authority and New York State Thruway Authority to finance their ongoing capital needs. In 1999, he was instrumental in securing Lehman Brothers' position as guaranteed lender to allow the Washington Metropolitan Area Transit Authority to close on the first-ever federal TIFIA standby loan guarantee. Tim is a registered professional engineer and spent seven years with a major international engineering/development firm. He received his undergraduate degree from Purdue University and his MBA with honors from Columbia University.

James W. Atwell, President, Commonwealth Service Company

Jim will assist in the financial program portion of this project. Recognized nationally for his leadership in innovative approaches in financing transportation infrastructure, he was awarded the Leadership Award from the National Council for Public-Private Partnerships for having helped Virginia develop partnership systems that have become models for other states as well as the federal government. A graduate of the University of Richmond with a B.S. degree in accounting and finance, Jim has served on numerous national task forces on accounting, audit and finance as they affect transportation policy and has spoken to national conferences on the subject of transportation finance.

Ron Tillett, Managing Director, Morgan Keegan

Ron is a Managing Director in Morgan Keegan's Richmond office. Prior to joining Morgan Keegan, he served four Virginia governors and the Virginia General Assembly over a 24-year public service career. As Secretary of Finance under two Virginia governors, he directed the activities of the State Comptroller, State Budget Director, State Internal Auditor, State Tax Commissioner, and the State Treasurer. He was responsible for advising the governors in the formulation and execution of the Commonwealth's fiscal policies. He served as chairman of the Commonwealth's Debt Capacity Advisory Committee and the Governor's Advisory Board of Economists. As State Treasurer under two former Virginia governors, Ron was responsible for the management and issuance of the Commonwealth's debt and as Chairman of the Treasury Board, and provided oversight of the Commonwealth's investments and banking services.

Prior to joining the executive branch of government in 1987, Ron spent 10 years with the Virginia General Assembly's House Appropriations Committee and Joint Legislative Audit and Review Commission. He received a B.S. in Urban and Regional Planning from Virginia Commonwealth University and holds the NASD Series 7 - General Securities Representative Professional License.

1.b Team and Key Principals' Experience

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Chris Lloyd, Senior Vice President and Director of Business Expansion Services, McGuireWoods Consulting LLC

Chris specializes in incentives negotiations, financing programs and contact with state agencies. He has significant expertise in the development of PPTA proposals and in assisting companies proposing PPTA projects with government and community relations activities. Chris served previously in the Office of the Secretary of Commerce and Trade where he was responsible for legislative, budgetary and regulatory coordination and development for 15 state agencies.

Frank Atkinson, Chairman, McGuireWoods Consulting LLC

Frank's practice focuses on state and local government relations, economic development, privatization and public-private partnerships, education, and elections and voting rights. He served in the cabinet of former Virginia Governor George Allen as Counselor and Director of Policy. He participated in the development of the PPTA and its initial implementation.

Abraham "Frank" Abugattas, P. E., Manager of Highways and Bridges, KBR

In more than 40 years of providing engineering services, Frank has overseen the planning and design of highways, steel and concrete bridges, steel sheet pile cellular cofferdams, multi-story and industrial buildings, foundations, water resource projects, airports, heliports, water pipelines, and municipal projects. He is responsible for project management and supervision of professional and technical personnel for planning, development of design criteria, and preliminary and final design. Recent notable projects include the Dulles Greenway Tollroad, I-5/SR 22/SR 57 Interchange Reconstruction and the North Central Expressway, as well as global tollway and transportation projects. .

Jimmy Mills, Special Projects Leader, Wilbur Smith Associates

Jimmy recently retired from a career at VDOT, where he progressed to positions of Assistant State Construction Engineer and State Location and Design Engineer. His experience gained in these positions provides him with significant expertise in the planning, design and construction of VDOT projects. Jimmy will use his experience to identify the resources needed for the project's success and to ensure that these resources are used most efficiently.

Jamie Browder, Regional Vice President, Wilbur Smith Associates

Jamie has more than 30 years of experience in all aspects of planning, design and construction of major civil works projects, including highways, bridges, commuter rail stations and other transportation projects. Jamie leads a staff of about 90 engineers, planners, technicians and administrative staff in the Mid-Atlantic region. Major projects of his career include I-295 between Route 60 and I-64, Richmond District and the Woodrow Wilson Bridge Project. He is the former chief engineer of VDOT.

Daniel Papiernik, Vice President, Southeast Region Operations, TransCore

Daniel has more than 15 years of experience with systems integration and intelligent transportation systems, including large-scale, complex application development and operations.

1.b Team and Key Principals' Experience

Describe the recent relevant experience of each entity identified above and the key principals involved in the proposed project. Describe the length of time in business, business experience, public sector experience and other engagements of the entity. The lead organization must be identified.

He is responsible for overseeing TransCore's operations, including maintenance and technical support for several toll road facilities participating in Virginia's Smart Tag program (the Dulles Greenway, the Dulles Toll Road, Coleman Bridge, Powhite Parkway Extension and the Chesapeake Expressway) as well as the Southern Connector. Major projects of his career include design and upgrade of the Maryland Accident Records and Retrieval System (MARRS), initial development of the VDOT Enterprise Data Warehouse, technical consulting to the Washington Council of Governments, VDOT Smart Travel/ATS program and the Virginia Technical Transportation Institute.

Al Volpe, I-81 Project Manager, KBR, Inc.

Al has more than 30 years of on-site project management experience, including major international and domestic infrastructure projects with an emphasis on project management, project engineering, and construction management. He is experienced in contract management and construction management activities, field engineering, project estimating, project controls, and direct interface and coordination with engineering, procurement, construction groups and client management. He is currently serving as Project Manager for the $620 million design-build Alice Springs-Darwin Railway project — an 880-mile track railway that completes the link in Australia's national rail network by connecting the southern states with the north of Australia.

1.c Contact Information

Provide the names, addresses and phone numbers of persons within the entity who may be contacted for further information.

For further information regarding the organizational structure of STAR Solutions or specific information regarding this submittal, please contact:

James W. Atwell
President
Commonwealth Service Company
10 East Franklin Street
Richmond, VA 23219
Office: 804.225.0530
Fax: 804.644.2709
Email: jatwellcsc@aol.com

1.d Client References

Include the address, telephone number and the name of a specific contact person for which the entity or primary members of the entity have completed a similar project.

Our success with developing the right project team to deliver complex projects is best verified by contacting our customers. We encourage you to discuss our performance with the references listed below.

1.d Client References

Include the address, telephone number and the name of a specific contact person for which the entity or primary members of the entity have completed a similar project.

APAC, Inc.	
Virginia Route 288 (PPTA) Mr. Frank Gee Acting Chief Engineer Virginia Department of Transportation 1401 East Broad Street Richmond, VA 23219 804.7486.2707	***Georgia 400*** Mr. David Graham, PE State Construction Engineer Georgia Department of Transportation #2 Capitol Square, S.W. Atlanta, GA 30334 404.656.5306
Adams Construction Company	
Christiansburg- Blacksburg Bypass Mr. J.D. Brugh Resident Engineer, Christiansburg Virginia Department of Transportation P.O. Box 420 Christiansburg, VA 24073 540.381.7200	***Christiansburg-Blacksburg Bypass*** Mr. Fred C. Altizer, Jr. District Administrator Virginia Department of Transportation P.O. Box 3071 Salem VA 24153 540.387.5320
English Construction Company, Inc.	
I-85 Bracey Rest Area/Welcome Center Ms. Cyndi Ward Asset Management Division Virginia Department of Transportation 1221 East Broad Street Richmond, VA 23219 804.692.0390	***Route 895 Connector (Pocahontas Parkway)*** Mr. Dave Wesson VDOT Transportation Engineer Senior Virginia Department of Transportation 620 Moorefield Park Drive, Suite 210 Richmond, VA 23236 804.330.5200
KBR, Inc.	
Dulles Greenway Toll Road Mr. Michael Crane Chairman Toll Road Investors Partnership 109 Carpenter Drive, Suite 200 Sterling, VA 20164 703.707.8870	***U.S. North Central Expressway*** Mr. Gary W. Taylor, PE Special Projects Engineer Texas Department of Transportation 9700 East R.L. Thornton Freeway, P.O. Box 3067 Dallas, TX 75221-3067 214.320.4432
Koch Performance Roads, Inc.	
Virginia Route 288 (PPTA) Mr. Frank Gee Virginia Department of Transportation Chief of Operations 1401 East Broad Street Richmond, VA 23219 804.786.2702	***New Mexico State Road 44 (Now US Route 550)*** Mr. Max Valerio New Mexico State Highway & Transportation Department P.O. Box 1149 Santa Fe, NM 87504-1149 505.827.5270

1.d Client References

Include the address, telephone number and the name of a specific contact person for which the entity or primary members of the entity have completed a similar project.

W-L Construction & Paving, Inc.	
Route 19, Russell County Mr. Roger Garrett, Project Engineer Virginia Department of Transportation P.O. Box 127 Lebanon, VA 24266-0127 276.889.3131	***Route 72, Scott County*** Mr. Jim Gates Virginia Department of Transportation P.O. Box 704 Jonesville, VA 24263-1913 272.346.1911
Wilbur Smith Associates	
I-95 Atlee-Elmont Interchange Bridges Mr. Bruce Shepard Virginia Department of Transportation Richmond, VA 804.786.3016	***I-81 Reconstruction, Rockbridge County*** Mr. Steven H. Garrett Virginia Department of Transportation Richmond, VA 804.371.2956

1.e Financial Statement

Provide a financial statement of the private entity and each of its major partners, firms, or other businesses. Submit the most recent Securities and Exchange Commission 10-K and 10-Q reports, if such reports have been filed.

Please see the latest Security and Exchange Commission reports that follow for KBR and APAC, the two publicly-held companies of the STAR Solutions team as well as for Wilbur Smith Associates, an Employee Stock Ownership Plan company. Financial information for the privately-held companies of STAR Solutions, which includes Adams Construction Company, English Construction Company, Koch Performance Roads, and W-L Construction & Paving are included in Tab 3, which is being treated as confidential and proprietary as granted by VDOT as being exempt from all Freedom of Information Act requests.

1.f Bonding/Financial Assurances

Provide necessary bonding/financial assurances.

As the project requires, STAR Solutions will provide, through its team members, the necessary bonding and financial security that may be required by VDOT to give assurances as to the payment to and performance during the construction phase of the project. Each contractor will bond its share of the construction work directly with VDOT or other appropriate entity.

1.g DBE Participation

Include any planned participation of DBEs during project development and implementation.

STAR Solutions is committed to actively seek out, support and encourage meaningful participation from disadvantaged business enterprises who add value to our team and to VDOT. With a broad base of Virginia subcontractors, our team can quickly award contracts to support its work in the design, project management support, construction and maintenance fields to fully qualified, responsive and responsible firms. We will meet or exceed VDOT's proposed goal of 12 percent DBE participation.

1.g DBE Participation

Include any planned participation of DBEs during project development and implementation.

Our approach to performing the I-81 project is to:

- Use DBE subcontractors to provide equipment, personnel and resources, with primary emphasis on using Virginia subcontractors to maximize the project's impact on the local economy.
- Use Virginia DBE subcontractors to minimize the number of outside personnel to be brought to work on the project throughout the corridor
- Use DBE subcontractors to supply the maximum quantities of permanent materials, e.g., sand, aggregate, cement, reinforcing steel, concrete barriers, etc., to minimize costs and transportation equipment maintenance costs.

To ensure our success for maximizing DBE involvement, we have added a Diversity Advocate specialist to our team. Max Guggenheimer of English Construction Company brings more than 30 years of experience in working with minority and disadvantaged businesses. He has created mentor protégé programs for DBEs with the City of Richmond and the North Carolina Department of Transportation to encourage the development of small contractors' interest and ability to bid and construct transportation projects. In this position, Max will actively seek opportunities to increase the volume of business placed with qualified DBEs and provide guidance and counsel to these firms enabling them to qualify as suppliers of goods and services on a competitive basis.

DBE Action Plan

To further encourage DBE participation, our policy will be to assist in the development of qualified subcontractors and suppliers — including those listed on VDOT's Certified Listing of Minority Business Enterprises — from such businesses offering goods and services on a competitive basis. We will strive to meet this commitment by:

- Identifying DBEs offering goods and services needed by STAR Solutions.
- Providing technical assistance and counsel to such businesses, enabling them to qualify as suppliers of goods and services on a competitive basis.
- Actively seeking to increase the volume of business placed with qualified DBEs so that they may become self-sustaining members of the economic mainstream.

We plan to use subcontractors not only for actual construction work, but also for engineering design, management support and construction support services. These services could range from surveying and signage design to computer and telecommunications support to general construction, signs and striping. STAR Solutions has already initiated meetings with several local DBE firms who have expressed an interest in this project and portray a strong history of performance.

We will continue to meet with other potential DBE teaming partners and commit to their meaningful participation throughout the project. The following is a partial listing of DBE firms we have already contacted for participation in project development and implementation:

1.g DBE Participation

Include any planned participation of DBEs during project development and implementation.

Athavale, Lystad & Associates	Civil, Structural & Drainage
CHI Associates, Inc.	Roadway, Bridge, Hydraulics, CEI
BEL-STAR, Inc.	Cost Estimating, Schedules, CEI
NXL Construction Company, Inc.	Surveying, CEI
Saeed Associates, Chartered	Roadway, Structures
Legion Design Campbell & Associates	Roadway Design
RAJAN MAHIMA Associates, Inc.	Roadway, Bridges
Mary Ann Mijares Engineering, P.C.	Drainage Design
A.I.A. Engineers	Civil, Structural

Using local- and Virginia-based DBE firms with resident work forces will minimize the impact to the local area with respect to having to provide accommodations and support for the construction and other work forces.

Tab 2 Project Characteristics

2.a Project Description

Provide a description of the transportation facility or facilities, including the conceptual design and all proposed interconnections with other transportation facilities. Describe the project in sufficient detail so the type and intent of the project, the location, and the communities that may be affected are clearly identified. Describe the assumptions used in developing the project. The project description should be prepared in a way that fully recognizes any federal and/or Commonwealth requirements to analyze other project alignments and alternatives.

Current Conditions and Project Need

I-81 is the main transportation corridor and economic lifeline serving western Virginia, traversing from Bristol at the Tennessee border in the south, to the West Virginia border near Winchester in the north, a total of approximately 325 miles. The majority of I-81 is four-lane divided highway, with two lanes in each direction.

- I-81 is one of the eight most-traveled routes in the U.S. for commercial truck traffic. Its volume is mixed with a substantial number of commuting, intra- and interstate auto travelers.
- Much of today's I-81 is now more than 30 years old, with some first-constructed portions more than 40 years old.
- The artery has volume and weight loads that well surpass the highway's original design capacity of approximately 25,000 Average Daily Traffic (ADT). This figure estimated an initial average of 5 percent to 8 percent volume of heavy truck traffic. At full-design capacity, the original estimate was for a maximum of 15 percent truck traffic. Today, I-81's daily heavy truck volume varies between 30 percent and 40 percent, varying by segment, with ADT's ranging from 16,000 to 31,550. The segment average exceeds 21,000 according to current VDOT statistics. VDOT's ADT estimate for the year 2010 averages more than 34,000 total vehicles per segment.
- A report to the Virginia General Assembly in 2001 noted that annual long-haul trucking traffic, currently estimated for all segments of I-81 to total approximately 18 million truckloads, will increase 61 percent by 2020 to nearly 29 million truckloads (increasing from approximately 2.6 million/segment today to 4.1 million in 2020).
- Therein are the corridor's principal problems***: large traffic volumes*** *plus* ***a substantial mix of heavy commercial truck traffic with lighter passenger vehicles*** *and the quite* ***different driving patterns and needs of the two groups.*** This situation is well-recognized by VDOT, which has its own strong desire and commitment to improve the safety and traffic flow along this vital lifeline for Virginia and the populous mid-Atlantic region.
- Improving I-81 is a VDOT goal since the highway is noted as one of the nation's most dangerous because of its high accident rate. According to VDOT statistics, during the 18 months from March 2001 through August 2002, there were 2,845 accidents on I-81, resulting in 42 deaths and 1,628 injuries. Critics and transportation professionals assign much of the blame for this record on the commingling of private, family vehicles with the large, commercial trucks. Select segments of I-81 experience twice the traffic fatality rate of other highways in the Commonwealth. Another major safety, environmental and convenience issue for I-81 is its frequent congestion, which can cause, even during non-peak hours, speeds reduced to as slow as 30 mph or less.

2.a Project Description

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- The current VDOT plan to widen I-81 to three lanes in each direction, using conventional design construction and funding mechanisms, could take from 30 to 50 years to complete. During this timeframe, I-81 is likely to reach a state of near-gridlock. Severely clogged traveling conditions in the I-81 corridor would adversely affect economic development in the western region of the Commonwealth, cripple vital just-in-time thru-shipping along this route in the nation's most-populous Eastern region, and result in a variety of serious negative social, economic and environmental impacts throughout this section of the country.
- Allocating VDOT funds for an I-81 construction project of major scale could further diminish Virginia's ability to complete other priority transportation projects in the state. Moreover, merely widening I-81 will not eliminate documented public safety concerns about auto and commercial truck traffic sharing the same lanes on the high-speed roadway.

For the reasons stated above, VDOT has, through the PPTA, sought private partner solutions to the I-81 situation.

- STAR Solutions' proposal to widen I-81 to ***at least four lanes*** in each direction, ***separate heavy truck traffic*** from automobiles, use ***private money to finance the project,*** and ***construct*** these and many other improvements ***on an aggressive 15-year schedule,*** is the ***one best solution*** that fully addresses I-81's safety and volume issues, and also advances the Commonwealth's vision ***for an integrated and technologically advanced transportation system.*** The concept to separate heavy truck and car traffic — the highway for the new century — ***designed and emplaced collaboratively,*** is endorsed by the Chair of the U.S. House of Representatives' Committee on Transportation and Infrastructure.

The Concept

The STAR Solutions' concept evolved during detailed and lengthy consideration of all pertinent elements and factors at issue for improving the highly important I-81 corridor. The team proposes a public-private partnership that rebuilds and increases the capacity of I-81, according to VDOT's vision, and with VDOT as a full team partner. We further envision that this fully collaborative effort can be a national model for subsequent public-private ventures.

- The team's concept calls for providing ***new construction*** that embraces ***the entire length of the interstate highway,*** from Milepost 7 in Bristol, north through the Shenandoah Valley of Virginia, to the West Virginia border north of Winchester. This ***construction will be completed within 12 to 15 years.*** Our ***primary improvement feature will be dedicated, barrier-separated truck lanes in both north and south directions.*** The lanes will incorporate ***a state-of-the-art "smart" electronic truck tolling system.*** Further, the STAR Solutions team, sensitive to VDOT's risk transfer and financial concerns, will provide ***a 20-year pavement warranty*** on the project.
- This basic improvement plan will be augmented with other approaches and features that also set the STAR Solutions' concept apart from other proposals. The STAR Solutions team, in its

2.a Project Description

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full, adaptable partnership with VDOT, will create and implement ***flexible, innovative, non-commonplace answers to I-81's problems.*** A full partnership approach with VDOT helps assure that ***our concept shares and reflects the Commonwealth's own concerns and vision for improving I-81 and protecting/improving its surrounding environment.*** STAR Solutions' approach will also ***serve as an investment to help maximize state goals*** for tourism and promotion ***of economic growth*** through ***increased transportation system efficiencies*** and ***improved intermodal transfer.*** A construction project of this magnitude will, in and of itself, be an economic engine for social improvement through job creation and increased tax revenues, as well as in building a permanent engine with the final product, a state-of-the-art I-81.

- Our team offers an extensive array of advanced transportation concepts that will be delivered by financing, designing, fully constructing and maintaining a vastly improved arterial corridor. The results will generate for VDOT, all I-81 users and the region, a wide range of benefits, but especially substantially improved highway safety and traffic flow. The benefits will accrue not only to the Commonwealth, but also to the heavily populated mid-Atlantic/Eastern Region of the United States and Eastern Canada.

VDOT can expect to receive a world-class model for the interstate system that aligns with and reflects the spirit of VDOT's own strategic transportation plans.

- As a result of the STAR Solutions' process of creating these improvements, VDOT can expect to receive ***a world-class model for the interstate system that aligns with and reflects the spirit of VDOT's own strategic transportation plans.*** The comprehensive approach of the STAR Solutions team concept evolved over two years of collaborative conversations with VDOT officials and among team members themselves, many of whom are currently working on design and construction projects along the corridor. The team proposes ***a workable, affordable solution*** that, from the early stages of this proposal's concept, ***has incorporated and maintained foremost the goals of VDOT,*** and ***embraced innovative elements*** to encourage and assure opportunities for VDOT's full partnership throughout the entire design/construction process.
- Fully mindful of Virginia's priorities and concerns, as made abundantly clear during the many months of discussion over what the improved I-81 should incorporate, and as articulated in VDOT policy and vision statements, the most important factors emerging that drove the STAR Solutions team concept were safety, intermodalism, and developing a true public-private partnership with VDOT, including crafting a realistic financial plan. Within each of these primary areas are included all of the RFP issues communicated by VDOT as principal for this project.

2.a Project Description

Provide a description of the transportation facility or facilities, including the conceptual design and all proposed interconnections with other transportation facilities. Describe the project in sufficient detail so the type and intent of the project, the location, and the communities that may be affected are clearly identified. Describe the assumptions used in developing the project. The project description should be prepared in a way that fully recognizes any federal and/or Commonwealth requirements to analyze other project alignments and alternatives.

The following provides details of the various aspects of this proposal, arranged according to VDOT priorities as listed on page 3 of the RFP, with some issues discussed in more detail in other tabs, as indicated.

Safety – The Cornerstone of Virginia's Transportation System

The basic STAR Solutions team concept includes:

- (Issues 1, 5, 17) ***Increasing capacity in two distinct ways*** — one, by ***widening I-81 to a minimum of four lanes in each direction,*** and, two, by ***implementing forward-looking, state-of-the-art traffic management strategies*** that will significantly enhance both traffic flow efficiency, capacity, and public safety.

  To provide immediate, short-term solutions and address VDOT priorities, STAR Solutions will also ***coordinate with VDOT to establish priorities for implementing interim safety improvements during the project's earliest phases.*** This would include truck climbing lanes, longer on- and off-ramps, and expanding VDOT's "smart" electronic signage and communications systems. The latter improvements will begin a substantive fulfillment of the state's Smart Travel Strategic Plan.

  By addressing existing safety problems immediately with interim solutions, the team will be working with VDOT to achieve both increased capacity and safety from the start of the I-81 construction program. By tackling these problems from the onset, STAR Solutions will relieve VDOT's repair/replacement/maintenance budget for many planned improvements to roadbed, interchanges and structures, freeing general fund dollars for other VDOT projects.

  The interim improvements will ease problems temporarily in select areas along the I-81 route, but will not provide lasting solutions that bring I-81 to the level of excellence or technical sophistication envisioned by the Commonwealth in its long-range transportation planning and as proposed by STAR Solutions.

- (Issues 1, 17) Within the safety/capacity issue of providing barrier-separated lanes for trucks, STAR Solutions proposes ***"boothless" tolling of heavy commercial trucks, using state-of-the-art electronic tolling systems*** at frequent locations along the corridor. Besides enhancing safe long-distance travel for interstate carriers, "boothless" tolling improves Over-The-Road (OTR) truck efficiency and reduces operating expenses.

  Boothless electronic tolling of heavy commercial trucks keeps traffic flowing and simplifies collection.

  Further, a system with tolling at all entrances and exits to I-81 greatly reduces the potential for truck traffic diverting to parallel roads to avoid paying tolls. This commercial toll-way, separated from non-commercial lanes, can be designed flexibly to accommodate the possibility of future provisions for advanced capacity technologies and/or for changed load and speed regulations for separated truck traffic.

2.a Project Description

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Electronic tolling and separated commercial truck lanes will conform to Commonwealth goals for enhancing public safety, offering improved freight safety and efficiencies, and expanding Smart Travel infrastructure. ***The team will consult with VDOT to refine these concepts*** and to assure compatibility with other proposed systems within and adjacent to the Commonwealth.

- (Issues 1, 17) Traveler safety will be improved dramatically by constructing ***two inside lanes in each direction separated by a barrier so they may be dedicated to heavy commercial trucks,*** and ***two outside lanes in each direction dedicated to private passenger vehicles, commercial and private buses, and recreational vehicles.*** At interstate junctions and at other selected exits that experience heavy motor carrier traffic, the design visualizes dual interchanges to separate heavy trucks from passenger vehicles. Also, at other selected locations where the truck volume merits a truck-dedicated flyover and auxiliary lane will allow trucks to access desired destinations.

  The concept of separated ***truck user-fee tollways (SHOT or HOT projects)*** on interstate highways is a subject of continuing favorable research. The Reason Foundation Public Policy Institute's Policy Study 294 (June, 2002) concludes that ***separate toll truck lanes are a "new path toward safer and more efficient freight transportation."*** The Texas Transportation Institute has an ongoing study program on "managed lane" solutions for improving highway capacity, efficiency and safety and cites several successful pilot programs. ***The concept is endorsed as well by American Road & Transportation Builders Association (ARTBA), AAA and by senior members of Congress*** who have oversight in the transportation realm.

  SHOT/HOT tollways also lend themselves, with advanced ITS technologies, to supporting truck "platooning." Platooning embraces advanced electronic technologies and other approaches to mass the movement of motor carrier vehicles for improved flow, safety, environmental and economic benefits.

  The truly national significance of the I-81 improvement project demands that our approach draw from the most innovative concepts for improving traffic flow and safety. STAR Solutions will stay abreast of current research and findings, especially work currently underway in Virginia. Virginia Tech's ITS program is studying a number of innovative concepts for improving vehicular flow and safety. ***STAR Solutions will work closely with VDOT to draw from all current research findings and ongoing studies to refine the I-81 improvement design,*** including establishing liaison with Virginia Tech and monitoring pilot projects in California and Texas.

  Team members are convinced by the overwhelming research findings and success of existing pilot projects on separated/managed lanes that ***STAR Solutions' I-81 improvement concept offers the greatest economic and public safety advantages for the Commonwealth.***

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- (Issues 7, 10, 12, 17) The STAR Solutions team is committed to working with VDOT to provide realistic solutions to its ***seamless Smart Travel*** vision for enhancing travel safety. STAR Solutions' team efforts will expand VDOT's current inventory of ITS devices and enhance the state's ITS infrastructure and services. Specifically, existing VDOT methodologies for traveler information, supplemented by additional ITS methodologies, will be used to provide interim enhanced public safety in the major segments of the corridor during construction, and for managing traffic to minimize incidents in the work zones, with the ultimate goal of full-scale ITS deployment along the entire re-constructed corridor to include advanced traveler information systems. STAR Solutions' I-81 enhancements, and the knowledge and technology transfers gained from their design and implementation, will provide a strong empirical base to draw from in implementing ITS improvements throughout the rest of VDOT's system.

  Further, we will coordinate with VDOT for an ***effective provision of fiber-optic cable conduit*** and discuss integrating this technology ***with "smart" enhancements*** such as electronic signage for Advanced Traveler Information Systems, Internet access at commercial rest areas, and connectivity with the statewide Transportation Emergency Operations Center. The ITS system could also be used to monitor and regulate varying speed limits as dictated by road/operating conditions, vehicle type, weather, relay traffic/exit conditions, lane changes, and other information that contributes to managed flow and safety and as state law and regulations permit. Provision for accommodating wireless PCS relay towers along the corridor may also be considered.

Intermodalism – Facilitating Transportation Efficiency

- (Issues 2, 4, 6) STAR Solutions is ***dedicated to an I-81 design concept that promotes and facilitates effective intermodal transportation through the entire corridor*** and as envisioned and supported by VDOT in its studies and policy statements. Our team recognizes with VDOT both the opportunities and challenges for directing passenger and freight traffic to existing or proposed rail infrastructure along the I-81 corridor. Improving the I-81 junction with I-66 in Warren County to provide more efficient freight access to the Virginia Inland Port will aid Norfolk Southern in transferring cargo to and from its high-speed line through Virginia.

  Our concept will be flexible to accommodate future decisions and trends in intermodal transportation throughout the corridor.

  Similar approaches will be addressed at other exits that lend themselves to transfer of people and/or freight to other transportation modes, including municipally-owned public carriers. The ITS system will play a significant role in facilitating these intermodal concepts.

2.a Project Description

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The Commonwealth's studies and policy directives encourage intermodality. Our design, mindful of the Commonwealth's goals, will be flexible to accommodate future decisions and trends in intermodal transfer. STAR Solutions will collaborate with VDOT in initiating design characteristics that facilitate near-term intermodal transfer, including provision for driver notifications through ITS electronic signage. This approach will encompass directing traffic to the Virginia ports as well as regional airports, passenger rail terminals (Virginia Rail), and park-and-ride facilities.

The STAR Solutions team is in open dialogue with Norfolk Southern, the principal rail carrier in the corridor, as well as VDRPT, discussing possible synergies and solutions. Norfolk Southern's position has been stated clearly at a number of conferences in the Commonwealth and in public releases. STAR Solutions will continue talks with the rail carrier to determine how the improved I-81 design can best realize VDOT's goal of improved intermodal synergy in realistic approaches.

- Railroad intermodal traffic (trailers/containers on flat cars) represents the traffic segment with the greatest growth potential for the industry. The merger of Norfolk Southern with Conrail increased that potential by creating longer north-south single-railroad haul that the railroad needed to make intermodal traffic financially viable.

  The Norfolk Southern Railway has been promoting development of this business using the I-81 corridor. An initial approach was the development of an improved rail line just to the west of I-81. This route was the former Norfolk and Western route from Harrisburg, Pennsylvania, to Bristol, Tennessee, connecting with the former Southern Railway line to Chattanooga. The costs to develop this route were estimated to be $2.5 billion and included improved track alignments and needed additional track capacity with double-track sections and reverse signaling. This line would not provide sufficient relief to minimize any work on Route 81.

  Norfolk Southern has another north-south main track just to the east of the former Norfolk and Western route, which is the former Southern Railway main track running from Washington, DC to Atlanta, Georgia. This line is the rail carriers' existing intermodal route for traffic moving between the southeast and northeast. This is the route that has the greatest potential for addressing the movement of intermodal traffic along the I-81 corridor. It does not however, address the most traffic that uses this route, which is from Knoxville South to the Northeast.

  To address the potential of moving any commercial traffic off the I-81 corridor, Norfolk Southern needs improvements related to a segment of the route that connects the former Southern Railway mainline at Manassas with the former Norfolk and Western route in the Shenandoah Valley at Riverton Junction near Front Royal. They would also have to make track improvements north of Riverton Junction on the same line to Harrisburg, Pennsylvania. The line was formerly a Southern Railway branch line and is now a key component for traffic flowing through the Norfolk Southern north-south gateway at Harrisburg, Pennsylvania.

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While this route does not totally lie in the I-81 corridor, functionally it could serve as a potential for moving some of the increase of intermodal traffic that would otherwise be hauled in trucks over I-81. As this route currently has excess capacity and is in good physical condition, it would require much less investment than creation of the new route originally suggested by Norfolk Southern. Therefore, this route could be the strategic approach for addressing the inclusion of rail in this corridor.

Rail Improvements and Costs

The rail project would consider both rail and highway access to Virginia's Inland Port located at Front Royal. Major highway access is via I-66 (Exit 6 just off I-81) and rail access is via the Manassas-Riverton Junction (near Front Royal) segment of the Norfolk Southern intermodal route discussed for improvements.

Improvements to this line, Manassas to Riverton and Riverton Junction to Harrisburg, Pennsylvania, are necessary to increase capacity and operating speeds. The costs are estimated to be in the order-of-magnitude of $116 million consisting of improvements to connecting tracks at both junctions, train control signaling and passing tracks. Of the $116 million, $55 million would be related to Virginia Railway Express (VRE) improvements for the Manassas to Haymarket Commuter Service, which would provide additional capacity for freight movement. Another $56 million would be needed for improvements between Riverton Junction and Manassas. The $56 million would include new double track with universal crossovers and other capacity improvements.

Based on our conversations with Norfolk Southern, the railroad would be open to some form of a public-private funding approach to accomplish this improvement. An example of this approach is the recent agreement that Norfolk Southern entered into with the State of Delaware to rehabilitate the Shellpot Bridge over the Christiana River in Wilmington. The $13 million project will be funded by Delaware and Norfolk Southern will pay the state a fee on a carload basis over a 20-year period. STAR Solutions will work with VDOT and VDRPT to determine the viability of this approach and a reasonable method for addressing the improvement.

Reebie Associates are performing a more detailed market evaluation of the Route 81 and 95 corridors to determine the types of freight and origin and destination of this freight. Once this study is complete, VDOT and VDRPT will be in a better position to determine what, if any track improvement will provide a benefit to Route 81. ***Any final approach or potential concept for addressing intermodality should be guided by the results of the study.***

- (Issues 2, 4) During Phase 2, based in part on the results of current rail studies, STAR Solutions will specifically address the feasibility of dedicating a portion of the highway project corridor for passenger rail infrastructure.
- (Issue 15) STAR Solutions proposes to collaborate with VDOT, in support of safety and the potential of facilitating intermodalism, to provide ***six new, 200-unit truck rest areas, linked***

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to ITS signage that provides drivers with capacity and other useful information. Additionally, STAR Solutions will, with VDOT, examine the option of providing motor carrier marshalling yards that can be used for a variety of OTR commercial truck purposes. These include use as intermodal transfer points, communication and inventory tracking centers, and electronic weigh stations, all integrated with the roadway but separated from non-commercial traffic.

- (Issues 3, 5) For the public's safety and convenience, and to promote public transportation intermodalism, the team proposes to build ***private vehicle park-and-ride/carpool lots in appropriate locations.*** The purpose of these lots would be to provide that critical ***interface between commuters and public mass transportation systems*** such as community bus and state passenger rail links, including the proposed Trans-Dominion Express. Further, STAR Solutions would offer, as an option, collector/feeder lanes or some other HOV provision at urban interchanges or exits where appropriate, either as short-term or interim improvement.

Partnering VDOT with STAR Solutions

- STAR Solutions proposes ***a dynamic new concept in collaborating with VDOT*** on the I-81 project, namely by working in ***a new type of partnership*** arrangement that draws the state intimately into all phases of the concept/design/development of the improvement plan.

As a member of the STAR Solutions team, ***VDOT will provide both design concepts and final designs.***

The full team partnership includes VDOT's collaboration in determining how to ***minimize the State's upfront cash requirements.***

The STAR Solutions team further will emphasize ***bringing "new" money to the road program*** through tolls and federal grants.

- (Issue 11) The team, as a function of its commitment to working with ***VDOT as a full partner*** in the project, will closely coordinate with VDOT on the phased construction program to ensure ***synchronization with the Commonwealth's Six-Year Improvement Plan*** for structure improvement. This coordination will identify projects by priority, and ***help VDOT reduce or eliminate near-term improvement spending*** on any structure currently targeted for replacement or improvement under the STAR Solutions' construction plan.
- To enhance the engineering/design collaborative process, STAR Solutions further proposes in Phase 2 to encourage ***VDOT to co-locate senior engineers to STAR Solutions' construction/design field offices*** so the Department can participate fully in all project processes. Team member KBR, on its approximately $1 billion inter-terminal rail project at Dallas-Fort Worth Airport, a technically complex project with a large design team, created a satellite office that co-located management, design and construction personnel. This joint office promoted harmonic and effective coordination and communication that would otherwise have been difficult to achieve had the individuals been remotely located from each

2.a Project Description

Provide a description of the transportation facility or facilities, including the conceptual design and all proposed interconnections with other transportation facilities. Describe the project in sufficient detail so the type and intent of the project, the location, and the communities that may be affected are clearly identified. Describe the assumptions used in developing the project. The project description should be prepared in a way that fully recognizes any federal and/or Commonwealth requirements to analyze other project alignments and alternatives.

other. The team strongly believes that with VDOT as a full partner, with senior staff assigned to work alongside and contribute to the team, the I-81 project can realize the same degrees of communications and design efficiencies as KBR experienced in Dallas.

- (Issue 16) STAR Solutions will ***competitively bid construction/subtier contracts*** on designated sections of the road ***to encourage and stimulate local economic benefit.*** (See Tab 1). The private sector team members will draw on partner VDOT's experience and knowledge of the bidding firms in selecting qualified subcontractors.
- (Issue 13) Our team proposes to use ***right-of-way that complements VDOT's I-81 feasibility study.*** Right-of-way acquisition will proceed, insofar as it is feasible and legally acceptable, on a basis of advance negotiation and purchase priorities that ensure critical properties are protected for future design-construction phases.
- (Issue 14) STAR Solutions, in consideration of VDOT risk transfer and funding concerns, will include ***a full 20-year pavement warranty*** with its construction package. This investment ***will ensure construction quality, enhance safety,*** establish and maintain the facility's ***performance and value on a life cycle basis,*** and ***reduce VDOT and bondholders' future cost risks*** associated with the pavement.
- (Issue 20) STAR Solutions proposes to ***complete the I-81 improvement project within 15 years.*** This aggressive schedule will ***provide the promptest possible development of the I-81 corridor's full economic potential,*** and provide ***the most beneficial impact on the State's and VDOT's funding capabilities and completion timeframe.***

Completion of the I-81 improvements within 15 years will provide economic benefit as well as improved safety and traffic conditions for the citizens in the corridor.

- (Issues 8, 9, 19, 20) I-81 travels through a number of diverse communities, large and small. Timely completion of the proposed improvements will benefit all of the citizens in the corridor with improved safety and traffic conditions. Other benefits include the economic stimulus that the STAR Solutions' I-81 construction itself will have throughout the region. Citizens directly affected by the project reside in Augusta, Botetourt, Frederick, Montgomery, Pulaski, Roanoke, Rockbridge, Rockingham, Shenandoah, Smyth, Warren, Washington and Wythe Counties, and the towns/cities of Bristol, Abingdon, Marion, Wytheville, Christiansburg, Harrisonburg and Salem. Other affected cities in close proximity to or bordering I-81 are Buena Vista, Lexington, Radford, Roanoke, Staunton and Winchester. STAR Solutions will implement a proactive public outreach program to keep the residents of these and other nearby communities informed and to receive their suggestions. The team, with VDOT guidance as well, will orchestrate construction activities to minimize any adverse impacts to surrounding communities.

2.a Project Description

Provide a description of the transportation facility or facilities, including the conceptual design and all proposed interconnections with other transportation facilities. Describe the project in sufficient detail so the type and intent of the project, the location, and the communities that may be affected are clearly identified. Describe the assumptions used in developing the project. The project description should be prepared in a way that fully recognizes any federal and/or Commonwealth requirements to analyze other project alignments and alternatives.

- (Issue 18) To promote and enhance the Commonwealth's interstate cooperation and communication, the STAR Solutions team, working with VDOT, will proactively continue the coordination the team has already established with Tennessee, Maryland, West Virginia and Pennsylvania. This important link will be conducted in a manner that keeps appropriate authorities fully "in the loop" throughout the project.

The national significance of this project, bearing in mind its endorsement by the Chair of the House Committee on Transportation and Infrastructure, offers unique opportunities for VDOT to play a leading interstate coordination role in this groundbreaking project. STAR Solutions supports VDOT in assuming leadership in this important segment of the project.

Further interstate coordination will include intermodal issues, freight questions, electronic tolling compatibility, and other pertinent matters of complementary concern for Virginia and its neighbors.

Options

In addition to the basic project described above, STAR Solutions offers for VDOT's consideration these options that are currently outside our main proposal:

- (Issue 14) Asset management (by competitive bid) of the existing and reconstructed facility.
- Renewal of the pavement warranty beyond the initial 20-year term to match the bond terms and/or VDOT needs.
- (Issues 14, 15) Rehabilitation and asset management of existing rest areas.
- (Issues 3, 5, 6, 8, 19, 20) Improved connections to the Northeast and Southeast legs of Route 37, at Milepost 317, north of Winchester, and at Milepost 310, south of Winchester.
- (Issues 1, 3, 5, 7, 17, 20) Smart Highway from Ellett Valley to interchange at Ironto, Milepost 128.
- (Issues 1, 2, 6 20) Intermodal ports and facilities, as referenced above, with emphasis on convenient and efficient access to through-rail lines and to the Port of Hampton Roads.
- (Issues 1, 5, 6, 8, 17 19, 20) Inclusion of additional connector/distributor lanes at appropriate high-volume interchanges.
- (Issues 1, 2, 3, 5, 7, 8, 12, 17, 19, 20) Expanded operations and maintenance of Intelligent Transportation Systems on I-81, as referenced above.
- (Issues 1, 7, 10, 14, 17, 18, 20) Install, maintain and lease fiber-optic conduit along the entire length of I-81, as mentioned above.
- Other I-81 corridor concepts VDOT would like to consider.

2.b Work Performed by VDOT

Identify and fully describe any work to be performed by VDOT or other public entities using public funds.

The I-81 improvement program is much ***more than "another highway construction" project.*** It has broad, national significance. The STAR Solutions team, because of the enormity and complexity of this effort, desires to ***include VDOT as a full administration, management and engineering partner*** in Phase 2 of the project.

STAR Solutions envisions a model project that will be copied in upgrading interstate highways from coast-to-coast and border-to-border.

The team specifically invites ***VDOT*** to participate, at a minimum, ***as the lead designer of at least one major interchange*** in the corridor. VDOT's particular expertise, experience and local knowledge will, at a minimum, be invaluable as a resource in determining which interchanges need the most complex design treatment to ensure safe and efficient traffic flows to and from the I-81 roadway. For its participation, ***VDOT would receive equitable compensation,*** allowing the Department to share in the project's economic benefit and help it ease any other financial pressures.

Further, as outlined in previous paragraphs, the STAR Solutions ***team will rely on VDOT's expertise, counsel and leadership in many other areas,*** from public relations and legal review, to inter-governmental coordination. Co-locating a VDOT staff member(s) at the STAR Solutions' team field office will strengthen the bonds of the collaborative partnership. On this issue, STAR Solutions will, consistent with VDOT's other team contributions, provide ***equitable compensation to VDOT*** for its staff members assigned to work with the team in the field office.

STAR Solutions generally envisions engaging VDOT as a Phase 2 partner in decision-making at every juncture, assuming a partner's role well beyond the usual and ordinary coordination functions. For a project of this exceptional nature, the team will take extraordinary steps to establish and maintain open and full communication and cooperation with VDOT to fulfill the partnership concept.

Beyond these steps, if necessary, STAR Solutions will request that VDOT exercise its power of eminent domain, with STAR Solutions preparing the documentation and providing all the necessary paperwork to VDOT for filing the certificate.

2.c Federal, State and Local Permits

Include a list of all federal, state and local permits and approvals required for the project and a schedule for obtaining such permits and approvals. Identify which, if any, permits or approvals are to be obtained by VDOT.

(Issues 8, 9) All permitting and approvals will be the full responsibility of STAR Solutions. The team members will coordinate this process closely with VDOT. At project onset, the team will appoint an experienced individual to lead a group of permitting specialists whose sole responsibility will be to identify, manage and complete the permitting process for this project. This group will work closely and coordinate with VDOT representatives to assure compliance with VDOT procedures and environmental goals. All permit applications will be developed concurrently with required environmental documents and design activities.

The permitting director will coordinate with corresponding federal, state and local officials to see that all requirements are fully met in a timely fashion. Our team will use a Joint Permit Application

2.c Federal, State and Local Permits

Include a list of all federal, state and local permits and approvals required for the project and a schedule for obtaining such permits and approvals. Identify which, if any, permits or approvals are to be obtained by VDOT.

process to keep the project on a fast-track development schedule. All permit applications will be developed concurrently with required environmental documents and design activities. Further, STAR Solutions will, as appropriate, coordinate and cooperate with the public and affected local governments. If VDOT chooses to accept a partnership role on the STAR Solutions team, VDOT can identify those permits it believes it can manage best.

All permit applications will be developed concurrently with required environmental documents and design activities.

A staff of experienced professionals will support the Permitting Director. The staff will coordinate the permitting process with the following federal, state and local entities (See Tab 4.c):

- U.S. Army Corps of Engineers
- U. S. Environmental Protection Agency, Wetlands Section
- U.S. Fish & Wildlife Service
- U.S. Coast Guard
- National Marine Fisheries Service, Management Division
- President's Advisory Council on Historic Preservation
- Virginia Department of Game and Inland Fisheries, Environmental Officer
- Virginia Department of Historic Resources
- Virginia Department of Conservation and Recreation, Division of Soil & Water Conservation
- Virginia Marine Resources Commission
- Virginia Department of Environmental Quality
- Augusta, Botetourt, Frederick, Montgomery, Pulaski, Roanoke, Rockbridge, Rockingham, Shenandoah, Smyth, Warren, Washington and Wythe Counties
- Cities/Towns of Abingdon, Bristol, Buena Vista, Christiansburg, Harrisonburg, Lexington, Marion, Radford, Roanoke, Salem, Staunton and Winchester and Wytheville
- Local wetlands boards

Permit applications will be developed concurrently with required environmental documents and design activities. We propose that each permitting agency designate a representative from that agency who will be "responsible" for the interagency review and coordination that are required for all environmental documents and permits.

Team members have used this process successfully in the past. For example, the highly controversial 100-mile-long Corridor H project (a four-lane highway in a new location in highly sensitive environments) in West Virginia was granted an 11-year individual permit by the Corps of Engineers concurrent with issuance of the Record of Decision by the FHWA. This permit was issued with only 15 percent of the engineering design completed.

2.d Social, Economic and Environmental Impacts

Without completing an Environmental Impact Statement, identify any anticipated adverse social, economic and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts. Identify the projected positive social, economic and environmental impacts of the project.

(Issues 8, 9) Our team joins VDOT and the Commonwealth in commitment to developing the I-81 improvement project in a way that both respects and protects the scenic corridor's unique environment and viewshed. STAR Solutions team members have strong individual records of environmental stewardship. This project will be developed using state-of-the art environmental assessment and protection techniques and will employ Best Management Practices to meet or exceed all local, state and federal requirements.

In addition to our strong commitment to environmental protection during planning, design and construction, the team anticipates that increasing corridor capacity will diminish congestion, and thus result in improved air and water qualities, conditions that are now adversely impacted by idling vehicles and other congestion-induced activities.

STAR Solutions' team members are experienced in executing projects while minimizing the impact to the environment.

Our plan to widen I-81 with two new lanes in each direction, and to separate trucks from cars, will require some new right-of-way at various locations in the corridor. While much new construction will fit within the existing right-of-way as planned by VDOT in its widening plan, and thus preserve much of the scenic beauty of I-81, additional right-of-way will further enhance the highway's safety for travelers and relieve congestion. These new right-of-way acquisitions may impact local home-owners and businesses. However, the team will carefully follow all state and federal requirements and, with VDOT consultation, be sensitive to local concerns when acquiring these properties.

I-81 crosses numerous rivers and streams in the Commonwealth, and the highway's proximity to historic properties, wildlife habitats, floodplains and potential wetlands necessitates careful stewardship of these assets. Our team of highly respected environmental and cultural resources will lead this effort to minimize or eliminate any adverse impacts.

Several federal-and state-listed endangered species may exist in the I-81 corridor. These include the Virginia big-eared bat and the globally rare, small whorled pagonia orchid. We will conduct a full assessment of affected environments to determine if they will be impacted by the project, and we will act to mitigate any potentially adverse impacts.

A number of positive social and economic effects will sweep through the corridor as a result of the construction project. The influx of federal dollars to the region can expect to "jump-start" western Virginia's economy with their "trickle down" effect in new jobs, retail sales, heavy equipment sales, improved sales and state income tax receipts, and accelerated consumerism. Moreover, by using private and federal dollars to design and construct the improvements, VDOT will benefit by having more scarce budget dollars available for projects in other areas of the state. And VDOT can certainly look forward to renewed public confidence in the Department by working successfully with the private sector.

Action Plan for Mitigation

As more fully outlined in Tab 4.c of this proposal, STAR Solutions will establish and maintain a proactive public involvement process throughout start-up, design and construction of each stage of the STAR Solutions' I-81 Project.

2.d Social, Economic and Environmental Impacts

Without completing an Environmental Impact Statement, identify any anticipated adverse social, economic and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts. Identify the projected positive social, economic and environmental impacts of the project.

The concept itself is a mitigation plan for improving existing conditions in this environmentally sensitive corridor. Improved multi-modal efficiency will provide abatement for a growing automotive emissions problem. Effective use of separate truck lanes and the extensive use of ITS will reduce many current environmental threats from internal combustion vehicles, from emissions to fuel spills from accidents. Other improved efficiencies such as truck platooning and the transfer of motor carrier and passenger traffic to rail offer further mitigation for both the near and long term.

STAR Solutions proposes to develop one coherent and comprehensive natural resources (e.g., wetland replacement, wildlife movement) and physical resources (e.g., acid mine drainage production) mitigation plan. This plan will be developed concurrently with preparation of the NEPA documents, permit applications and preliminary designs.

Team members have successfully applied similar procedures to other large-scale projects, such as the Appalachian Highway Corridor, for which Michael Baker, Jr., coordinated permitting for this 100-mile-long, four-lane highway in a new location that crosses the Appalachian Plateau and Potomac Highlands and traverses two national forests.

Additional mitigation plans may be necessary if there is a determination that the project will adversely impact any property listed on or eligible for the National Register of Historic Places, or if there is significant potential for noise impact.

Projected Positive Impacts

STAR Solutions' I-81 Project will generate more than 34,000 new jobs for every $1 billion invested in road construction.

The STAR Solutions' I-81 Project presents a potential for numerous positive social, economic and environmental impacts. A primary and most significant benefit will be improved safety by separating trucks from passenger vehicles. This positive social accomplishment is one that will considerably ease Virginia citizens' concerns as expressed in a recent poll of regular I-81 business and personal travelers. Quick interim actions, followed by the permanent improvements, will provide VDOT with an opportunity to showcase its ability to "turn things around" by eliminating conditions that contributed to so many tragic accidents in the corridor.

The proposed I-81 improvements will also provide a substantial economic stimulus, resulting in enhanced state and local community revenues. According to a 1999 report by ARTBA, every $1 billion invested in highway construction results in $2.05 billion of new economic activity. Similarly, ARTBA says such an investment creates, directly and indirectly, as many as 16,297 new jobs. An additional 18,144 new jobs are expected to be created by spending of the people whose jobs are connected directly to the construction project. Our team plans to use local subcontractors to ensure that this massive economic outlay provides immediate and direct benefits to residents and business in the 13 counties through which I-81 passes. In addition to increased localized construction employment and building materials sales, motels and apartments, grocery and department stores, restaurants and movie theaters, gas stations, vehicle repair shops — virtually every business in the construction zone — can anticipate significant sales/income growth.

2.d Social, Economic and Environmental Impacts

Without completing an Environmental Impact Statement, identify any anticipated adverse social, economic and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts. Identify the projected positive social, economic and environmental impacts of the project.

The widening of I-81 will also improve business opportunities for the trucking industry. Virtually unimpeded traffic flow along dedicated, separated lanes will allow carriers to reach their destinations more quickly and more efficiently, reducing the costs associated with moving goods. Safer traveling conditions will, by their very nature, reduce accidents and result in lower business costs. Roadway accidents cost the trucking industry a staggering amount of money in lost goods, lost personnel, lost time, damaged equipment and related insurance costs. Improved flow of goods to market in the enhanced I-81 corridor will stimulate development of such support industries as distribution centers. These, in turn, will create even more new jobs as well as enhance business opportunities for existing industries in the region.

Through development and expansion of Virginia's ITS, truckers and the general public will benefit by having safer highway travel, enhanced travel choices, and more efficient transfer of critical road condition and other information to drivers.

Enhanced opportunities for efficient intermodal transfers will promote the Commonwealth's plan for an improved transportation system that will, by the State's own projection, promote economic growth and strengthen all transport modes, especially rail and ocean shipping.

As previously discussed in the environmental impacts, by significantly reducing traffic congestion, Virginia will benefit with much improved air quality. By maintaining the unique scenic viewshed of the corridor, Virginia can also rely on continued and expanded tourist travel in the region.

Finally, toll revenues from the significant commercial traffic will provide income for life-cycle maintenance and improvements that will keep the entire I-81 roadway functioning efficiently.

2.e Critical Factors for Project Success

List the critical factors for your proposal's success.

STAR Solutions recognizes four critical factors for our team's success on the I-81 improvement project:

- **Partnering with VDOT**
- **Financing**
- **Cost and Schedule**
- **Technology and Innovation**

These factors are virtually inseparable and work intimately with each other in every phase. The following provides details on these issues.

Partnering with VDOT

A project of this magnitude requires a significant amount of coordination and cooperation, not only among our team members, but also with the many local, state, and federal government regulatory and oversight agencies. We believe, however, that our most important relationship is our compact with the government and people of Virginia as expressed in our commitment to work closely with VDOT.

2.e Critical Factors for Project Success

List the critical factors for your proposal's success.

For this project to reach its goals, the team must dedicate itself to forging a strong working relationship with each other and with VDOT to deliver successfully the identified improvements to I-81. Transportation experts and the public-at-large all recognize the need for this project. Now is the time to get to work. The STAR Solutions' I-81 Project addresses this urgency.

The proposed improvements constitute an atypical highway construction project. The I-81 effort is not even a standard PPTA project. This will be the first attempt to reconstruct an entire interstate at this scale. The combined experience, knowledge and expertise of our team members and VDOT are all needed in this unique situation. That is why VDOT's partnership, as expressed in its cooperation and support throughout the process, will be critical to our team's efforts and in the fulfillment of the I-81 improvement program.

Financing

The STAR Solutions team has carefully crafted a responsible and innovative plan to support the project's financial development, a plan that goes beyond conventional "financing" approaches for projects of this nature. The plan calls for "new" money to be infused for completing construction: private money and user fees. As detailed more fully in Tab 3 of this proposal, our plan is essential to the feasibility of this project. Implementing its various elements is also vital to the success of fulfilling the plan for I-81. This innovative funding plan enables cost-effective and efficient delivery of the needed safety improvements and congestion reduction strategies outlined in this proposal. We propose, if our concept is accepted, to bring the State of Virginia, VDOT and the public fully into the development and refinement of our financial approach to ensure for all parties that our plan is fiscally well-founded, responsible and, most importantly, realistically feasible.

Cost and Schedule

The members of the STAR Solutions team constitute as experienced a group of design-construction firms as can be assembled. Team members in particular are experienced and successful in estimating and delivering very large, complex projects such as the one proposed for improving I-81. While every project is subject to a number of varying influences that impact the final cost, our team is fully dedicated and committed to finalizing and working within an improvement program that is realistic, practical and affordable. The financial plan in Tab 3 relates in detail our base estimated costs and the sources of the necessary funding. STAR Solutions' aggregate experience in cost estimating and income projections is excellent. Complementary to our totally realistic cost determination is our ability to establish and maintain a realistic design/construction schedule. Decades of successful experience in managing very large, quite complex projects allows the STAR Solutions team to provide virtual assurance that we will complete a quality project safely and efficiently within the projected timeframe. Further, through our commitment to a full partnership with VDOT, we will determine a final completion schedule that reflects VDOT and public priorities. We will integrate those project aspects with an effective schedule for delivering other priority segments until the full improvement program is completed.

2.e Critical Factors for Project Success

List the critical factors for your proposal's success.

Technology and Innovation

The PPTA process itself encourages teams such as STAR Solutions to bring new and innovative approaches to the design, construction and management of transportation projects. Our plan effectively uses new technology in traffic management tools, most specifically in fully automated, boothless toll collection systems and other ITS methods. The transponders that will be used to collect tolls from heavy trucks can also be used to monitor traffic speed.

We also intend to design and build the project in a manner that allows easy installation of, concurrent with construction or in the future, fiber-optic and other information technology hardware that enhances public safety and economic development within the corridor.

Our plan will use the latest technology and innovations to design a high-quality roadway.

STAR Solutions is dedicated to bringing to this project any and all feasible, effective developments and innovations in "smart travel" as they become available. Our team will stay in close contact with Virginia Tech and other institutions that are on the leading edge of transportation research to stay abreast of industry progress.

The team's introduction of a 20-year pavement warranty is also a most innovative concept for such a large project. Through customized pavement design technology, the warranty will not only result in a better quality road, but will also relieve VDOT of many maintenance and rehabilitation burdens during the life of the warranty, further freeing scarce VDOT resources for other priority projects.

2.f Proposed Schedule

Identify the proposed schedule dates that shall be met on the project for key portions of the work, including the estimated time for completion.

The overall schedule, detailed at the end of this tab, is outlined in four major phases, with construction activities overlapping during the total construction period. In addition to engineering and construction tasks, essential public involvement, environmental and right-of-way acquisition activities have all been programmed into the master schedule.

This public-private partnership provides the vehicle to expedite funding for the project, which serves to shorten the time required to provide safety enhancements.

Recognizing the severe public safety problems that currently exist on I-81 that concern VDOT and the public, STAR Solutions will provide a number of interim traffic management improvements for immediate implementation during early construction stages. These early areas of "attack" will be determined collaboratively with VDOT. The areas identified with the highest traffic accident rates will be given priority for traffic management improvements within the first 12 to 18 months of the project.

2.g Risk, Liability and Timely Completion

Propose allocation of risk and liability and assurances for timely completion of the project.

Under the PPTA Design-Build model, VDOT and the Commonwealth will immediately see the benefits of the risk transfer. We propose using a comprehensive agreement with VDOT, with a phased approach similar to other PPTA projects such as the Coalfields Expressway. Design and construction segments may then be negotiated in phases and agreed upon as the scope of the project fully develops. The project will, in all phases and for all work, meet or exceed government guidelines.

Specific Risks Identified and Assigned

STAR Solutions	Owner / VDOT
Quality	Right-of-Way
Construction costs	Legal tort
Schedule	Legal public safety enforcement
Differing site conditions	Operation – snow removal
Utility coordination	Finance – shared (Fed gas tax)
Insurance	Hazardous materials
Surety	
Design	
Quantities	
Permits	
Environmental monitoring and compliance	
Operations – tolling, pavement performance (20+ year option)	
Finance – shared (STAR – bonding)	

The proposed 20-year pavement warranty not only assures the Commonwealth that it will receive a better quality road, the warranty also relieves VDOT of many maintenance and rehabilitation burdens during the life of the warranty, further freeing scarce VDOT resources for other priority projects. The warranty essentially transfers the risk of pavement performance back to its builder, the STAR Solutions team, while providing incentives for delivering at the start a high quality pavement.

Assurance for timely completion of the project is inherent in the collective experience of STAR Solutions' team members. Each participating entity is known to VDOT and has a good reputation for consistent high performance on large-scale, complex projects, as described by each team member in Tab 1. Our collective experience in proven, sound, professional management procedures will provide the best possible scenario for on-time, quality performance.

2.h Ownership, Legal Liability, Law Enforcement and Operation

Clearly state the assumptions related to ownership, legal liability, law enforcement and operation of the facility.

At all times, the Commonwealth retains ownership of the entire facility. Members of the STAR Solutions team remain liable for their actions.

While STAR Solutions will provide additional site security, it is anticipated that routine public safety and law enforcement functions would remain with local and state agencies for all traffic on

2.h Ownership, Legal Liability, Law Enforcement and Operation

Clearly state the assumptions related to ownership, legal liability, law enforcement and operation of the facility.

the roadway for the life of the program. Additionally, STAR Solutions will work toward the development of protocols with VDOT, the Virginia Department of Motor Vehicles, local law enforcement agencies and the Virginia State Police to ensure effective truck toll collection and to restrict trucks from using alternative local roads and causing congestion and public safety problems for adjacent jurisdictions.

Koch Performance Roads will use various treatments to maintain the warranted pavement in good condition and extend the roadway's service life.

Routine and ordinary maintenance of existing I-81 sections will remain the responsibility of VDOT during the construction process, as will each reconstructed section when completed. The exception will be that STAR Solutions' team member Koch Performance Roads will assume responsibility for maintaining the new pavement after each segment is opened to traffic under the conditions of the team's 20-year warranty. TransCore, the team member that is the world's largest electronic toll collection (ETC) provider, will operate and maintain toll facilities.

2.i Phased Openings

Provide information on any phased (partial) openings proposed prior to final completion of the work.

As noted in the completion schedule at the end of this tab, overall construction will be divided into four major segments, with phased opening of sections within these major segments as each is completed.

Improvements will immediately appear along the corridor – enhancing safety and increasing capacity.

Interim solutions to critical safety problems will be an important focus of the STAR Solutions' I-81 Project. After reaching a comprehensive agreement with VDOT, we will begin working with VDOT to identify locations and implement improvements such as truck climbing lanes, longer on- and off-ramps, new signage and communications systems, and other intelligent transportation system enhancements.

2.j Policies and Procedures

Identify policies and/or procedures for quality assurance in both design and construction phases to include internal quality control procedures and how the quality program shall enhance the finished product.

STAR Solutions will develop with VDOT a Quality Control Plan (QCP) for the I-81 program, based on the existing and very successful Quality Program used by KBR for large-scale construction projects. The plan will be site specific and constitute a "living document" adaptable for any changes in the scope of the contract or services.

Ultimately, responsibility for adherence to the QCP will be with the designated STAR Solutions' Project Manager, who, in turn, will appoint a full-time Quality Control (QC) Manager. The QC Manager will monitor, inspect, and test where appropriate, the work of all participating entities to ensure each meets established quality criteria. Further, the QC Manager will work with subcontractors and suppliers to help establish and administer their internal quality and control measures, provide training, and maintain records on qualifications and quality performance.

2.j Policies and Procedures

Identify policies and/or procedures for quality assurance in both design and construction phases to include internal quality control procedures and how the quality program shall enhance the finished product.

Each subcontractor will be required to establish and implement a Quality Control and Improvement Program that involves every level of employee at all phases of the project execution, from design to construction to close-out.

The QC Manager will conduct regular quality control meetings to review work schedules and status, resolve QC and production problems, and address any items suggested for change or modification.

As part of the final contract, a full and comprehensive document will detail in specific manner the full procedures and organization of the QCP.

KBR's QCP was developed from experience gained over many years of completing large-scale projects. Quality control is basic to customer service and contributes in the most significant manner to the satisfactory completion of all projects. By forging a team that emphasizes quality and that has a sincere focus in this critical area, workers at all levels are encouraged to and rewarded for seeking continuing improvement in processes, materials handling, and all other aspects of the project.

2.k Traffic Control Issues and Solutions

Identify and address traffic control issues and solutions.

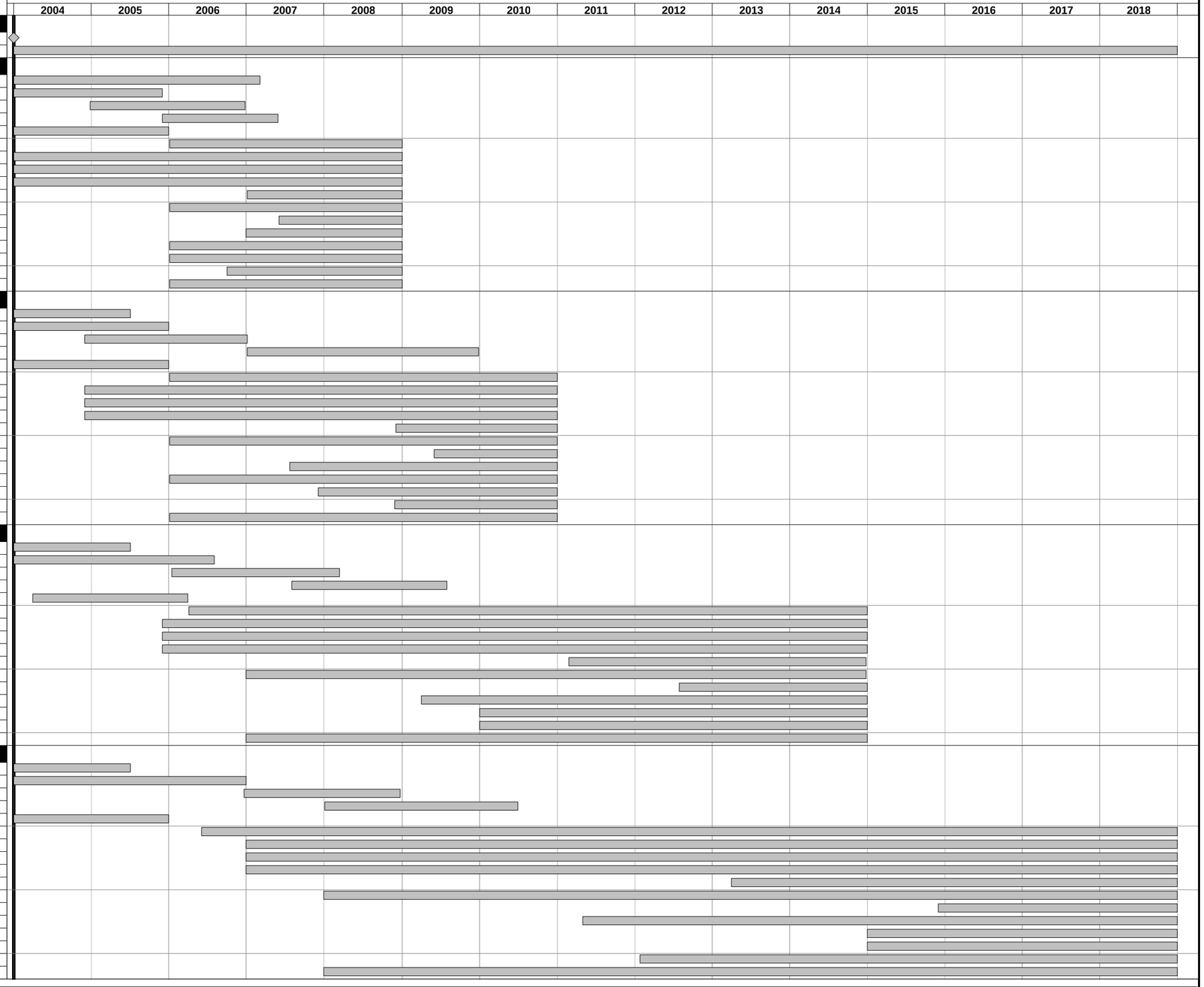
One of the most difficult challenges in constructing the I-81 improvements will be maintaining normal, safe traffic flows throughout the improvement process so that the construction itself does not contribute to the very problems the project will be solving. In addition to maintaining at each construction site normal, two-lane flow in both directions, and traveler safety, there is the added obligation to protect the many construction workers. The problems exist both on "open" portions of highway as well as at the critical interchanges, where traffic merges/blends at the on- and off-ramps.

STAR Solutions will employ time-proven measures and any new, tested methods to maintain constant, safe travel flow and driver and worker safety throughout the construction life of the I-81 improvement project. This aspect of the construction process will include the use of flagmen, moveable barriers, electronic signage, phased construction, temporary lanes and any other methodology or device to ensure both safety and traffic flow.

STAR Solutions team members have extensive experience in dealing with these issues and an excellent record of accomplishment in many challenging venues, from rural interstates to urban feeder and arterial routes.

A detailed plan for traffic controls will be provided as a part of the final contract and included as well as part of an overall safety program and with the Quality Control Plan.

Activity Description	Start	Finish
Overall		
Comprehensive Agreement Signed	01JAN04	
Program Management	01JAN04	31DEC18
Phase 1 - Lexington to Staunton (MP 180-227)		
Public Hearing	01JAN04	02MAR07
Environmental	01JAN04	30NOV05
Right of Way Start-up Activities	23DEC04	22DEC06
Right of Way/Utilities	01DEC05	30MAY07
Preliminary Design	01JAN04	30DEC05
Design Roads/Bridges	02JAN06	31DEC08
Geotechnical	01JAN04	31DEC08
Traffic Engineering	01JAN04	31DEC08
Survey	01JAN04	31DEC08
Tolling	02JAN07	31DEC08
Road/Bridge Work	02JAN06	31DEC08
Pavement	01JUN07	31DEC08
Barrier	01JAN07	31DEC08
ITS/Weigh in Motion	02JAN06	31DEC08
Soundwall	02JAN06	31DEC08
Rest Areas	02OCT06	31DEC08
Inspection	02JAN06	31DEC08
Phase 2 - MP 156-180 and MP 227-252		
Public Hearing	01JAN04	30JUN05
Environmental	01JAN04	30DEC05
Right of Way Start-up Activities	01DEC04	01JAN07
Right of Way/Utilities	02JAN07	30DEC09
Preliminary Design	01JAN04	30DEC05
Design Roads/Bridges	02JAN06	31DEC10
Geotechnical	01DEC04	31DEC10
Traffic Engineering	01DEC04	31DEC10
Survey	01DEC04	31DEC10
Tolling	02DEC08	31DEC10
Road/Bridge Work	02JAN06	31DEC10
Pavement	01JUN09	31DEC10
Barrier	23JUL07	31DEC10
ITS/Weigh in Motion	02JAN06	31DEC10
Soundwall	03DEC07	31DEC10
Rest Areas	01DEC08	31DEC10
Inspection	02JAN06	31DEC10
Phase 3 - North to Rte 66 & South to N of Rte 77		
Public Hearing	01JAN04	30JUN05
Environmental	01JAN04	31JUL06
Right of Way Start-up Activities	12JAN06	12MAR08
Right of Way/Utilities	01AUG07	29JUL09
Preliminary Design	01APR04	31MAR06
Design Roads/Bridges	03APR06	31DEC14
Geotechnical	01DEC05	31DEC14
Traffic Engineering	01DEC05	31DEC14
Survey	01DEC05	31DEC14
Tolling	01MAR11	29DEC14
Road/Bridge Work	01JAN07	29DEC14
Pavement	01AUG12	01JAN15
Barrier	03APR09	01JAN15
ITS/Weigh in Motion	01JAN10	31DEC14
Soundwall	01JAN10	31DEC14
Inspection	01JAN07	31DEC14
Phase 4 - North to WVa line & South to Exit 7		
Public Hearing	01JAN04	30JUN05
Environmental	01JAN04	29DEC06
Right of Way Start-up Activities	22DEC06	22DEC08
Right of Way/Utilities	02JAN08	01JUL10
Preliminary Design	01JAN04	30DEC05
Design Roads/Bridges	01JUN06	31DEC18
Geotechnical	01JAN07	31DEC18
Traffic Engineering	01JAN07	31DEC18
Survey	01JAN07	31DEC18
Tolling	02APR13	31DEC18
Road/Bridge Work	01JAN08	31DEC18
Pavement	01DEC15	31DEC18
Barrier	03MAY11	31DEC18
ITS/Weigh in Motion	01JAN15	31DEC18
Soundwall	01JAN15	31DEC18
Rest Areas	27JAN12	31DEC18
Inspection	01JAN08	31DEC18



Start Date 01JAN04
Finish Date 31DEC18
Data Date 01JAN04
Run Date 09JAN03 14:51

Early Bar
Progress Bar

Phase One - Conceptual Proposal
Improvements to the I-81 Corridor

STAR Solutions

Tab 3 Project Financing

This confidential information is contained in a separate binder.

Tab 4 Public Support

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

The widening of I-81 and other related improvements along the entire 325-mile corridor in the Commonwealth will have numerous benefits, including enhanced safety, less congestion and new economic development opportunities. Further, the development of the STAR Solutions' I-81 Project more than satisfies the VDOT's long-range vision for improvements in the corridor. Instead of just applying a "Band-Aid" to the problems along I-81, we have proposed a comprehensive solution to address the long-term needs to address traffic growth in the corridor. Allowing the project to be developed under the PPTA also provides a number of benefits to the taxpayers of Virginia. Finally, reduced congestion offers environmental benefits.

Safety and Congestion Issues Addressed

Perhaps the single most important aspect of STAR Solutions' proposal is the improvement to driver safety that will result from separating heavy trucks and passenger vehicles. I-81 is widely recognized as one of the most dangerous transportation corridors in the Commonwealth, and possibly the nation. According to VDOT statistics, in the first four months of 2002 there were 694 accidents on I-81 in Virginia, with 352 people injured and 12 people killed. These accidents involved a total of 228 heavy trucks. On certain segments of I-81, the traffic fatality rate is double that of the rest of the Commonwealth. Headlines such as "Big Rig Crashes, Killing 1 and Tying up I-81 Traffic" (*Roanoke Times*, April 25, 2001) and "Thursday Wreck on I-81 Takes a 3rd Life; 14 Deaths in 4 Years on That 5-Mile Span" (*Roanoke Times*, Nov. 24, 2001) appear all too frequently.

The addition of new capacity throughout the corridor will reduce the need to divert traffic onto local roads to avoid accidents on I-81, a nearly daily occurrence that causes severe bottlenecks on roads not designed to handle such volumes.

The anticipated growth in traffic over the next 20 years, particularly of trucks, will only worsen the situation. Already, areas around Roanoke, Lexington, Staunton and Winchester are seeing truck volumes exceed 30 percent of daily trips. There are even times when truck traffic routinely exceeds 40 percent. Since the road was designed to handle just 15 percent truck traffic, this creates serious safety and maintenance problems. Further, since truck traffic is growing at a faster rate than car traffic, the problem is only getting worse. With the new restrictions on air cargo since September 11, truck volume on I-81 is growing even more quickly than anticipated just a few years ago. Tens of thousands of people rely on I-81 to get to work, to go to church, to go shopping or to go to school, yet many times when they get on the road, they encounter extremely hazardous road conditions exacerbated by the truck traffic volumes. Without immediate improvements, many segments of the interstate and the interchanges will reach Level of Service F (stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure) in the next 10 years. As a result, I-81's status as an efficient freight corridor would be compromised and economic development in the area could falter.

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

The most comprehensive analysis of the safety issues on I-81 was a report released on March 28, 2000 by Virginia Congressmen Goodlatte, Wolf and Boucher. The I-81 Safety Task Force, chaired by former Secretary of the Army John O. Marsh, undertook a year-long analysis of issues such as engineering, redesign, construction, law enforcement, signage, incident management and truck equipment and operation safety. During four public hearings, the task force heard from residents and business leaders along the corridor who identified the desperate situation along I-81. While the task force did not make any formal recommendations, a number of steps, including separation of trucks and cars into different lanes and improved ITS, were closely examined as a way to resolve many of the safety and congestion problems.

Increased revenue results from avoiding idling and diversions since shippers often attach a dollar value to predictability and speed.

As outlined in the recommendations of the Governor's Commission on Transportation Policy, quantitative data about safety should be the top criteria evaluated when VDOT determines its priorities for road construction or enhancement projects. Because of the current safety statistics, few highways in Virginia have more of a demonstrated need for improvements than I-81.

Benefits to Trucking Industry

Enhanced safety and reduced congestion have significant economic benefits, particularly to truck operators who depend upon their vehicles for their livelihoods. Although some trucking firms explain that they are paid by the load and not for timely deliveries, the ability to deliver more loads in a shorter amount of time because of reduced congestion and improved road conditions will certainly enhance their revenues. Moreover, the shift by many manufacturers and distribution companies to just-in-time delivery methods requires timely deliveries of products. In some cases, fines are levied against trucking firms when products are late. Savings in non-scheduled delays are valued at almost twice the amount of anticipated delays, and more businesses are locating their facilities near the best roads to ensure timeliness and consistency in their deliveries, as well as to help prevent damage of goods in transit. Our team also believes that many of the ITS components of the plan can aid the trucking industry.

An issue that has been raised by opponents of truck tolls is a suggestion that truckers will divert from I-81 onto smaller local roads to avoid paying tolls. The reality for truckers is that diverting from I-81 does not lead to the most practical or efficient route. To travel the distance from Route 29 at the North Carolina border up to Route 15 North at Gainesville, Virginia, a driver would have to travel a 212-mile stretch that has at least 55 traffic signals and 418 bus stops, and at least 10 locations where the speed limit is below 55 miles per hour. Overall, using a 40-mph as an average running speed and counting one minute for bus stops, the trip from North Carolina to Warrenton would take approximately 5.3 hours, and then it could take several additional hours to maneuver through northern Virginia traffic to cross the Potomac River. This is an inefficient way to get through Virginia in lieu of using I-81. Further, traffic delays cost trucking companies at least $146 to $192 per hour, (Source: “DOT Study Finds Trucks Increasing Share of Freight”, *Transport Topics*, October 7, 2002), so reducing them by increasing capacity on I-81 will result in cost savings to trucking firms.

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

Trucking logistics specialists say that often it is cheaper to take the toll road than to avoid it because out-of-route miles can add significantly to the variable costs of running a route. Carriers have three different types of operating costs: running costs (fuel, maintenance, and tires), variable costs (all the costs incurred for off-route miles), and fully loaded costs (typical costs for all miles, including overhead and equipment). If a carrier only incurs running costs (typically the lowest costs), the lower the toll, the greater the number of miles a carrier can travel off-route. However, if the driver is compensated for those miles (part of the variable costs), the number of miles a carrier can travel off-route decreases significantly.

There is also little evidence to show that tolls affect truckers' routes or the volume of truck traffic. On the Ohio Turnpike, where the toll cost was increased from 1995-1999, nearly 750,000 more trucks are using the road now than before the tolls were increased. On the New Jersey Turnpike, the toll was increased in 2000, but the number of truck trips increased by nearly 1.1 million trucks in 2001. Another study done by the Florida Department of Transportation showed that convenience (i.e., the shortest route/distance between the points of origin and destination) was the major consideration of routing. Florida even attempted to change truck routing behaviors, but according to the *Palm Beach Post* (September 3, 2002), "In 1996, the state reduced tolls for truckers on Florida's turnpike to lure them from I-95 after a rash of crashes. The lower tolls, however, were not enough to make truckers go out of the way."

Economic Development Stimulus

The reconstruction of I-81 will create a number of economic development opportunities throughout the corridor. The project will also have spin-off benefits for the entire state. Not only will the actual construction create thousands of new jobs for the entire construction period, but also by making the road safer and reducing congestion, the widening will make the region more attractive to new and expanding businesses. It is also anticipated that by making the road safer and reducing congestion, commerce along the corridor will be more efficient, thus resulting in significant savings to truckers and motorists.

The ongoing trend among firms looking to locate their distribution centers is to locate next to the best roads, and treat any associated tolls as a cost of doing business. Common thought amongst transportation-dependent companies is that spending money to drive on toll roads might save them from paying higher costs later on, due to higher gasoline costs and the risk of accidents on a more congested road. Distributors also value being able to take a less congested and well-maintained road to avoid damage to their freight in transit.

Most firms value locations near effective transportation facilities. There is plenty of evidence to support the increased economic growth adjacent to good transportation whether tolled or not. As an example, Illinois, which operates one of the country's most extensive toll highway networks, had the largest number of new and expanded truck facilities last year, according to *Site Selection* magazine.

The greater issue is that businesses want and are increasingly relying on consistent and timely transportation. Traffic congestion impacts freight networks and economic penalties are factored in for freight delays. The real opportunity is that improvements in this transportation corridor will provide a positive benefit to consistent, timely freight movement.

Economic benefits of the STAR Solutions I-81 Project are more fully detailed in Tab 5.b.

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

Schedule and Cost Savings for Taxpayers of Virginia

Under conventional construction and funding mechanisms, the complete reconstruction of I-81 could take 30 to 40 years. In fact, the recent reduction in funding available in the Six-Year Improvement Plan could extend this date even further. STAR Solutions' proposal greatly accelerates this completion date and provides many benefits to the taxpayers of Virginia, including:

- **Shifting of risk from VDOT to STAR Solutions** - One of the most important benefits accruing directly from the PPTA process is that price and schedule risks as well as project coordination are shifted from VDOT to the project team. Although VDOT retains those responsibilities that are better retained in the public sector domain, including securing right-of-way, public safety law enforcement and facility ownership, costly risks of schedule, cost and performance are placed with the private sector. This allows the department to focus on other transportation priorities. Further, inflation risk is transferred from the state to the project team.
- **Financing plan allows resources to be used for other transportation needs** – The STAR Solutions' financing plan allows Virginia to realize almost immediately, the benefits of an improved I-81 corridor without delaying or harming other planned transportation projects in the Commonwealth. Further, today's historically low interest rates allow for the project to be built more affordably than ever.
- **Pavement rehabilitation and reconstruction agreement reduces future maintenance expense** – STAR Solutions' proposal to provide a pavement warranty for the project offers many benefits, particularly in helping to reduce future paving costs and disruptions to the corridor during repair and rehabilitation. By carefully monitoring the pavement performance and immediately addressing any problems that develop, the superior condition of the road is maintained.

  STAR Solutions' 20-year pavement warranty trims ongoing maintenance costs and minimizes disruptions to the corridor during repair and rehabilitation.

  General benefits of the pavement warranty include:

  – Reduction in VDOT resources required for maintenance.

  – Providing state-of-the-art pavement maintenance management on new pavement that may have positive overflow effects to other VDOT facilities

  – Eliminating cost risk of future work.

  – Enhancing performance for the end users.

  – When funding obligations are met, the resulting facility will be performing at a high level of service and quality.

  For these reasons, the warranty should also be viewed as a significant contribution of equity to the project by the STAR Solutions team.

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

- **Faster delivery –** Our financial program allows I-81 reconstruction to be complete in less than half the time as compared to conventional methods. The STAR Solutions' proposed concept under the PPTA will enhance the value obtained by taxpayers by combing the best advantages obtained in the public and private sectors. This proposal provides a method of accountability for transportation cost, scheduling and quality that leverage skills and knowledge of both groups.
- **Comprehensive solution –** The STAR Solutions' plan offers a comprehensive, forward-thinking approach to solve the problems along all 325 miles of I-81 in Virginia instead of just making spot improvements. Although a comprehensive approach may appear more costly, the need is there now to make improvements in the entire corridor, and VDOT should embrace a visionary approach to dealing with the problems in the corridor that could save money in the long term.

Consistent with VDOT Plans

STAR Solutions' proposal is consistent with the VDOT plan for improvements to the I-81 corridor. In 1998, VDOT commissioned the "I-81 Improvement Study Project," which divided the corridor into 10 study areas for a comprehensive examination of the current conditions along the road and made recommendations for improvements. That project resulted in the recommendation to widen the entire interstate to three lanes in each direction and called for additional lanes where warranted by traffic volumes or other conditions. The study also noted, however, that there was no funding available to implement its recommendations. This project takes that recommendation to the next level. By creating at least two new lanes of capacity in each direction, by separating heavy truck and light truck/passenger vehicle traffic, and developing a viable financing plan, many of the problems identified in the I-81 Improvement Study Project are resolved.

I-81's emergence as a major commercial corridor, particularly as an alternative to I-95 and I-85, is the cause of many of the safety and congestion delays now becoming evident. Because there are no viable alternate routes to I-81 — either other corridors outside Virginia or local roads — traffic congestion and safety problems will only worsen without these improvements. Enhancing the highway will not only deliver benefits to the citizens of Virginia, but also improve the efficiency and speed of commerce throughout the entire region.

The STAR Solutions team has also worked hard over the course of the past year to ensure that the team's plans are compatible with local needs and plans. In fact, as a result of meeting with every affected local jurisdiction in the corridor, we have assembled a list of I-81 corridor priorities, including additional interchanges or other related improvements that these communities would like to see emerge from the reconstruction project. We look forward to working with VDOT during the PPTA evaluation process to include many of these recommended enhancements that support economic development, tourism, and other local goals.

We have also reviewed much of the industry literature and research regarding separated truck lanes, and we believe those materials provide further support for our proposal, including recent reports by the Commonwealth Transportation Research Council. These reports include:

"The Effect of Speed, Flow, and Geometric Characteristics on Crash Rates for Different Types of Virginia Highways" – January 2000, Virginia Transportation Research Council, Neal Garber and Angela Ehrhart

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

"A Simulation Analysis of Traffic Flow Elements For Restricted Trucks Lanes on Interstate Highways in Virginia" – Virginia Transportation Research Council, Lester Noel and Jennifer Peek

"Exclusive Lanes For Trucks and Passenger Vehicles on Interstate Highways in Virginia: An Economic Evaluation." – Virginia Transportation Research Council, Lester Noel and Joseph Vidunas

That research demonstrates the safety and congestion relief of such a plan as well as the potential for economic savings through increased efficiency of freight movements, lower fuel costs and insurance savings. In fact, during the course of the past years, we have been contacted by a number of organizations interested in our proposal and even students at Virginia Tech doing graduate research on the concept.

VDOT has also expressed growing concern regarding deficient bridges in the I-81 corridor. Many of these structures, some of which are nearly 40 years old, need significant repairs or rehabilitation. Our improvements plan helps to address these critical safety problems.

Environmental Benefits

By reducing congestion, and thus the time that people spend idling in their cars because of accidents and other traffic problems, the STAR Solutions' I-81 Project achieves environmental benefits. Cars and trucks emit tons of exhaust even while sitting in traffic, so by reducing these occurrences through increased capacity, pollution is reduced to levels less than would otherwise exist given the growing traffic volumes.

Multi-State Coordination on I-81 Improvements

During the course of the past year, members of the STAR Solutions team have been consulting with senior transportation officials with other states in the I-81 corridor to learn more about their existing improvements plans, educate them about the PPTA process and the new VDOT solicitation for I-81 improvements, and to establish a network of contacts with whom we can coordinate efforts to ensure the maximum efficiency of freight and car movements throughout the corridor. These efforts are in addition to those by VDOT that were detailed at the Harrisonburg pre-proposal conference. What should be noted, however, is that these states have needs less than I-81 because of the availability of alternate parallel routes or other interstates that allow traffic to move east-west from I-81 to major destinations such as Philadelphia via I-76, Nashville via I-40, and Washington/Baltimore via I-70. Therefore, their improvement plans are not to the scale of what is needed in Virginia.

As a result of these meetings, we have learned about activities in the following states:

West Virginia – The state is in the process of widening I-81 to three lanes in each direction from Martinsburg to the Maryland state line. Construction should be finished in the near future. Because of severe right-of-way restrictions in the corridor and other funding constraints, no additional improvements are planned at this time. According to WDOT officials, other projects, such as the King Coal Highway, Corridor H, bridges across the Ohio River, and the Coalfields Expressway are a higher priority at this time.

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

Maryland – MDOT has begun the NEPA process for the addition of a third lane to I-81 from the West Virginia line to I-70 to relieve existing congestion issues. With regard to rail improvements in the I-81 corridor, Maryland is willing to coordinate efforts with the Commonwealth, but they have expressed to us no desire to move forward on a specific project on their own that would require state funding because the case has not been made to them that rail upgrades will sufficiently reduce freight movements on the interstate to justify the expense.

Pennsylvania – PENNDOT officials have begun studying plans for adding an additional lane in each direction.

Tennessee – In addition to examining upgrades to I-81, Tennessee is undertaking a significant examination of freight movements in the I-40 and I-81 corridors to determine if rail upgrades could reduce traffic congestion. The estimated cost of such a project is $1.2 billion. The estimated fare for a train passenger would be $0.15 per mile plus a $5 surcharge per ticket.

Because of these contacts, the STAR Solutions team is uniquely positioned to begin the I-81 widening project in Virginia immediately and to assist VDOT in coordinating matters with other states.

Metropolitan Planning Organizations

There are currently two metropolitan planning organizations (MPOs) in the I-81 corridor — the Roanoke Valley Area Metropolitan Planning Organization and the Bristol Urban Area Metropolitan Planning Organization. As a result of the 2000 census, three additional MPOs are in the process of being created in the Winchester area, in the Harrisonburg/Staunton area, and in the Blacksburg/Christiansburg area. The STAR Solutions team has worked to establish contact with each of these organizations. Team members have made presentations to the Northern Shenandoah Valley Regional Commission (from which the Winchester MPO will emerge) and the Central Shenandoah Valley Planning District Commission (from which the Harrisonburg/Staunton MPO will emerge) to discuss our plans for widening and improving I-81. Mr. Wayne Strickland from the Roanoke Valley Area Metropolitan Planning Organization also participated in a STAR Solutions' briefing for City of Roanoke and Roanoke Regional Chamber of Commerce officials in December 2001. We have also spoken to Mr. Dave Rundgren of the New River Valley Planning District Commission about the group's plans.

The three new MPOs have yet to be officially constituted and will not hold their first meetings and have dedicated staff until spring 2003. At that time, we will work with VDOT to coordinate our efforts to inform them about the revised I-81 improvements proposal. As a result of the contacts we have made with local government officials throughout the I-81 corridor, many of whom will serve on the MPOs when constituted, we believe that we have a distinct advantage in having them understand what we are planning and to establish a partnership for moving the project forward at the appropriate time.

Statewide Multi-modal Long-Range Transportation Plan

The STAR Solutions team is committed to ensuring our improvements plan complements the Statewide Multi-modal Long-Range Transportation Plan that is now being updated for completion in 2005. As required by the VDOT RFP for I-81, and as outlined in Tab 2, we have identified a number of ways to improve multi-modal access throughout the corridor and be forward thinking

4.a Community Benefits

Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.

in addressing the problems of the corridor instead of only adding more asphalt. While the problems of the corridor do require significant increases in road capacity, we believe multi-modal solutions can provide some relief.

4.b Government and Community Support

Identify any anticipated government support or opposition, or general public support or opposition for the project.

Government Support

Because of the well-documented need for improvements to I-81 to enhance safety, reduce congestion and create economic development opportunities, there is wide-spread government support for a project of this type. This support has manifested itself in a number of ways over the past four years:

Originally built for 15 percent truck traffic, I-81 averages 30-40 percent trucks daily. Numerous government studies and task forces support the need for immediate improvements to I-81.

Virginia Transportation Act of 2000 - Because of the pressing safety issues on I-81, the VTA provided $75 million to the Salem and Staunton districts to make immediate safety improvements along the corridor. This funding was in addition to the new money to accelerate other I-81 projects provided by the VTA.

Interstate 81 Safety Task Force - As previously detailed in Tab 4.a of this proposal, this group undertook a year-long examination of the safety concerns of citizens along the entire corridor. The task force's report served as a vehicle for advancing various suggestions to improve the current situation, including widening of the road and the separation of trucks and cars.

Interstate 81 Study Project - VDOT's effort in 1998 to comprehensively examine the challenges of I-81 and make recommendations for its improvement is one of the most visible demonstrations by the state that the highway should be reconstructed. It forms a basis for extending the design to four lanes in each direction.

Interstate 81/Interstate 77 Overlap Study - Based on findings from the widening studies, the Commonwealth Transportation Board included $2.5 million in the 1999-2000 Six-Year Improvement Program to fund a comprehensive location study to develop alternatives to alleviate congestion on the I-81/ I-77 overlap, which was determined to be the top priority for I-81 improvements in the Bristol transportation district. That study is now underway under the leadership of Hayes, Seay, Mattern & Mattern, one of the STAR Solutions' team members.

Roanoke Regional Mayors and Chairs Forum – At the first-ever meeting of the mayors and boards of supervisors chairmen of the Roanoke region convened by Roanoke mayor Ralph Smith in 2001, the widening of I-81 was identified as the area's top priority.

Executive and legislative commissions - Numerous executive and legislative branch commissions in recent years, including the Governor's Commission on Transportation Policy and the Commission on the Future of Transportation in Virginia (HJR 843 - 1999), have heard testimony on and actively discussed the need for immediate improvements to I-81. There have also been several recent attempts by legislators to create commissions solely focused on I-81 issues.

4.b Government and Community Support

Identify any anticipated government support or opposition, or general public support or opposition for the project.

SJR 55 (2000) Study of Diversion to Rail - Completed by the Virginia Department of Rail and Public Transportation, this study analyzed the viability of upgrading the existing freight rail tracks running parallel to much of the I-81 corridor to divert some cargo shipments from the highway to rail. While the study concluded that consideration of public investment in rail improvements along the I-81 corridor is warranted, it was anticipated that such an investment could divert no more than 10 percent of the anticipated growth of truck traffic from the road, a very nominal amount.

Local Government Activities

The support for I-81 improvements has only been enhanced as a direct result of the work of the STAR Solutions team since its initial proposal was unveiled last year. Representatives of the team have met with government officials in every jurisdiction in the I-81 corridor, and they have conducted numerous briefings of various boards of supervisors, planning district commissions and other governmental organizations. These efforts have resulted in a number of resolutions of support for improvements to the I-81 corridor through public-private partnerships, including the City of Salem, the City of Harrisonburg, Shenandoah County, and the Northern Shenandoah Valley Regional Commission. Many of these localities have also expressed an interest in the evaluation of moving freight from I-81 to rail, and our proposal addresses that issue. Other localities have expressed support for I-81 improvements and the STAR Solutions' concept but have decided not to take official action to avoid any perception of favoritism when the potential for additional competition exists.

House Bill 1373 (2002) - During the 2002 General Assembly session, the legislature was asked to consider an amendment to the PPTA statute to permit consideration of the STAR Solutions' proposal. That legislation was adopted with overwhelming support, and upon signing House Bill 1373, Governor Warner noted that "Anyone who drives I-81 knows the sooner this road is widened and car and truck traffic is separated, the safer all motorists will be. This is an innovative approach to enhancing our state transportation system and protecting our citizens who drive on I-81."

SMART Travel Reports - Many of the ITS components of the STAR Solutions' proposal build directly upon the findings and recommendations of VDOT in its various SMART Travel reports, including the plan developed for the portions of I-81 in the Staunton district. Those reports clearly recognized the many benefits of ITS in helping to reduce congestion and improve accident response. The STAR Solutions' proposal builds on that work by integrating ITS with local, regional, and state public safety activities that will enhance security and emergency response.

Widening I-81 to four lanes in either direction will ease safety concerns regarding co-mingling passenger and heavy truck traffic.

Government Opposition

Several local governments outside the I-81 corridor, including Henry County, Carroll County, Pittsylvania County, the City of Martinsville, and the Town of Rocky Mount, have adopted resolutions opposing truck tolls on I-81 because of unsubstantiated claims that such tolls would either significantly increase truck traffic through their communities or threaten funding for their transportation priorities. No locality that would be an "affected local jurisdiction" under the provisions of the PPTA statute has opposed tolls on trucks, I-81 improvements, or the STAR Solutions' proposal.

4.b Government and Community Support

Identify any anticipated government support or opposition, or general public support or opposition for the project.

Public Support

Public support for I-81 widening greatly outweighs the opposition and has been documented in a number of ways as well as further affirmed through research and analysis conducted by a reputable third-party consultant. STAR Solutions, as part of its proposal preparation process, also conducted public opinion research to directly determine whether people in the I-81 corridor support widening. Our analysis had the following results:

- 91 percent think it is important to widen I-81 to four lanes (with 58 percent citing safety as the top reason to widen the highway)
- 92 percent of residents want the road improved in 15 years or less

While the amount of public support for widening and improving I-81 is not surprising among residents of the I-81 corridor, our polling shows remarkable support for the project and the financing plan among trucking households as well. An estimated 19.3 percent of the people surveyed classified themselves as "working in the trucking industry or for a business that relies on the trucking industry." Among these people, support for separating cars and trucks and widening I-81 enjoyed nearly the same approval rating — 89.6 percent — as it does among the general population. Support for those improvements to happen in 15 years or less is even higher than among the general households — 96.1 percent. Clearly, people in the trucking industry realize the importance about doing something to improve the conditions on I-81 soon. Approximately 62.3 percent even supported requiring large trucks to pay a toll to cover the cost of improvements. Over three-quarters of trucking households, even more than in the general population, believe that even with the toll, the area will become more attractive for economic development.

During the past two years, the STAR Solutions team has worked hard to detail the benefits of the team's proposal and to encourage public dialogue regarding the project. These efforts have included establishment of a website – www.improve81.com – that solicits public comment regarding the project. The depth of support for the project is reflected in some of the following statements:

> *"…I believe this is the only viable solution to our regional transport issues."*
>
> D.K., Winchester

> *"I would emphatically support the separation of cars and trucks on I-81. I myself have been involved in an incident that was caused by a truck…th(e) entire incident would not have happened if trucks were in separate lanes. Luckily no one was hurt and the truck company paid for the damages, but this is another case that shows that the volume of truck traffic on the highway has exceeded safe allowable. Thank you for your efforts to protect the motorists that travel on this dangerous stretch of highway."*
>
> C.N., Newport News

> *"I agree that we should impose a toll on truckers using the proposed new lanes on I81. Those who use the road should pay for it!"*
>
> E.C., Waynesboro

4.b Government and Community Support

Identify any anticipated government support or opposition, or general public support or opposition for the project.

"I believe the plans are outstanding…This is a much needed project that should not only alleviate the immediate problems but would also make the interstate prepared for the future. I think it is about time that the toll is instituted on this type of project to defray the costs. It is, quite frankly, a common sense approach and I would be glad to pay a toll to make the conditions of the highway safer and more commuter friendly. Thanks for all of the hard work including having to endure with all of the opponents to the project…I know I am merely one in this project but please move forward with my blessings."

D.D., Eagle Rock

"…WE NEED IMPROVEMENTS TO I-81 NOW…"

G.E., Harrisonburg

"Your team should be commend for it's proposal and your ability to come forward with an idea/plan to relieve the congestion and make a very dangerous roadway, safer---Something must be done ASAP to make the lifeline of Western Virginia a safe place for all to travel---… For us who travel 1-81 each day in both directions it is obviously getting busier all the time---Thanks for the effort so far…"

D.S., Christiansburg

VDOT Customer Satisfaction Survey - Completed in October 2001 by the Center for Survey Research at the University of Virginia, this comprehensive assessment of how Virginians view VDOT provides support for I-81 widening. In addition to answering specific questions about VDOT performance and activities, respondents were asked to offer suggestions for improvements. In all three VDOT districts covering I-81 (Salem, Staunton and Bristol), a number of people identified widening of roads, alleviating truck-generated congestion and better road upkeep as top priorities. Citizen comments about I-81 ranged from "I-81 needs a lot of work" to "the truck traffic is very bad" to "I-81 is terrible."

New Century Region Analysis - In 2000, the Center for Community Research at Roanoke College conducted a sample of 130 leaders in the New Century Region (Roanoke metropolitan area) to solicit their input on the most pressing issues facing the area. A full 89 percent of the respondents indicated that widening of I-81 should be a top priority for the region.

I-81 Improvements Project Study - In addition to the preliminary engineering and design performed for VDOT as part of this process, public hearings were held along the entire corridor to solicit opinions about the proposed improvements plan. A review of the written public comments shows some isolated concerns about the impact on specific properties, but generally, there was widespread support for the widening plan.

Interstate 81/Interstate 77 Overlap Study - Similarly, public involvement has been a vital part of this study. At the public information hearing on October 29, 2001 to review the study's preliminary results, nearly 250 people attended to hear the recommendations.

Roanoke Regional Chamber of Commerce Transportation Summit (2001) - Speakers and panelists at the event identified the widening of I-81 as the top transportation priority for the

4.b Government and Community Support

Identify any anticipated government support or opposition, or general public support or opposition for the project.

region, noting that even if the various rail improvements become necessary, I-81 should be widened to at least three lanes in each direction.

Corridor Chambers of Commerce – Members of the STAR Solutions team have met with chamber of commerce and economic development officials throughout the corridor to brief them on the proposal. Many organizations, including the Lexington-Rockbridge County Chamber of Commerce, the Harrisonburg-Rockingham County Chamber of Commerce, and the Roanoke Regional Chamber of Commerce have endorsed I-81 improvements as a result of these meetings.

Community forums and meetings - Numerous forums and meetings have been held during the past several years in communities along I-81 to discuss the problems with I-81. Citizens' concern about safety and congestion along I-81 has been made known all along the corridor. Our team members have addressed dozens of civic groups along the corridor with audiences totaling more than 1,000 members, interested in seeing improvements to I-81. These groups include the Wytheville Lions Club, the Salem Rotary, the Washington County Rotary, the Augusta Lions Club, the Roanoke Civitan, the Marion Rotary, the Abingdon Kiwanis, and many others. Our team has also made presentations of trucking interests, including the Shenandoah Travel Club, to encourage dialogue regarding the proposal.

Litigation - The problems with safety and congestion along I-81 resulted in a lawsuit that was filed in 2001 seeking to declare a segment of I-81 a public nuisance.

Public Opposition

Several organizations, mostly outside the corridor, have adopted resolutions opposing truck tolls on I-81, again, largely based on unsubstantiated information regarding truck diversions to local roads and potential impacts on other transportation projects. These include the Alleghany Highlands Chamber of Commerce, the Dan River Industry Roundtable, the Greater Augusta Regional Chamber of Commerce, and the Martinsville-Henry County Chamber of Commerce. Several additional groups, including the Virginia Poultry Association, the Virginia Forestry Association, and the Virginia Manufacturers Association have expressed their opposition to truck-only tolls. The STAR Solutions team has held meetings with many of these groups to develop ways to address this concern and to detail the many benefits of our proposal. Further, industry advocates were encouraged to submit recommendations for safety improvements and operational enhancements to the STAR Solutions team. Many of those recommendations have been incorporated into our new design as reflected in Tab 2.

SMART Solutions - As a direct result of the proposal to widen and improve I-81 using a toll on trucks, as required by Virginia law, a group of trucking companies and related interests has formed SMART Solutions. This group has indicated their support for I-81 improvements, but they oppose truck tolls to support it. No alternative funding mechanism has been offered by the group. SMART Solutions has tested a number of messages, ranging from truck diversion, to economic ruin for communities along the corridor, to I-81 draining funds for other transportation projects in the state, including I-73, in an effort to defeat the truck toll approach. Based on recent polling data, these efforts have had little or no impact. In fact, support for improvements to I-81 has increased over the past 12 months.

4.b Government and Community Support

Identify any anticipated government support or opposition, or general public support or opposition for the project.

During the course of the past year, STAR Solutions team members have held a variety of meetings with members of the SMART Solutions coalition, including the Virginia Trucking Association and the American Trucking Association to foster a positive dialogue to address industry concerns.

Environmental and Community Preservation Groups

Nearly every transportation project in the country faces opposition from environmental and other preservation groups because of perceived impacts. Fortunately, our polling has indicated that such views are not shared by the vast majority of residents along the I-81 corridor. In fact, most believe that improvements to I-81 will help the environment by reducing congestion and improving air quality.

4.c Public Involvement Plan

Explain the strategy and plans that will be carried out to involve and inform any agency and the public in areas affected by the project.

The success of the STAR Solutions' I-81 Project will depend upon full public involvement in each step of the project review, design and construction process. STAR Solutions also wants to be a full partner with VDOT in disseminating information to affected citizens and to build public support for this plan. To accomplish this, STAR Solutions will implement a comprehensive public involvement plan. Our vision is to keep people along the corridor fully informed every step of the way so that impacts are minimized and opportunities (employment, supply, contract participation) are maximized and ensure that it is designed in a way that addresses any site-specific needs. In fact, we have provided copies of this proposal not only to every affected local jurisdiction along the I-81 corridor, but also to every MPO/PDC and other interested parties, in an effort to improve communication about this project.

STAR Solutions has initiated a public involvement program to inform the public of the preliminary aspects of our project. Working with members of the local and regional press, we will build on this performance — via brochures, newsletters, website and meetings — to keep the public and all stakeholders informed.

STAR Solutions intends to have an outreach strategy that actively works in the affected communities to proactively address concerns about the project and listen to public comments. The team will work closely with VDOT on media relations and help with technical briefings, site tours, news releases and other informational materials about the project.

Every member of STAR Solutions has a long history of facilitating public comment and input on transportation projects in Virginia and across the U.S. By implementing a strategy consisting of our best practices learned through years of experience, our public involvement process will be both substantive and meaningful. As outlined in our proposed schedule, we envision beginning the public comment and hearing process as soon as possible.

4.c Public Involvement Plan

Explain the strategy and plans that will be carried out to involve and inform any agency and the public in areas affected by the project.

The complex nature of the project also drives the public involvement plan. Many of the permits and approvals needed for this project, as outlined in Tab 2.c of this proposal, including the NEPA clearance process, have statutorily defined public input and comment processes associated with them. Further, the project will have to be added to the various regional transportation plans, including the Constrained Long-Range Plans of the Bristol and Roanoke areas metropolitan planning organizations, as well as the three new MPOs being formed for Harrisonburg/Staunton, Winchester, and Christiansburg/Blacksburg. Getting those plans amended to include this project also requires public notice and hearings. STAR Solutions will establish a comprehensive communications program using the following tools to ensure maximum contact with the public and stakeholder groups:

- Public meetings
- Employment / contractor opportunity fairs
- Newsletters
- Web site
- Mail, e-mail and fax lists
- Media communications
- Public outreach

Similar communications programs developed by STAR Solutions team members have been lauded for their proactive communication and effectiveness by previous clients, the driving public, and agencies on state, Federal, and international levels. VDOT will benefit by retaining first-hand knowledge, be able to coordinate other VDOT efforts effectively, and make use of team resources to manage information that showcases the benefits of this public-private partnership. In fact, we look to VDOT to be our full partner in these efforts and would work in full cooperation with the agency to keep citizens informed about the project.

Tab 5 Project Benefit/Compatibility

5.a Public Benefits

Describe the significant benefits to the community, region or state. Identify any state benefits resulting from the project, including the achievement of state transportation policies or other state goals.

I-81 is a vital link in both the Commonwealth's and the nation's transportation system. By linking the large consumer markets of the Northeast with the emerging manufacturing centers of the Southeast, this highway has become an important corridor in today's just-in-time delivery process. Further, its strategic location has made it the home of a number of warehouse and distribution centers, including those for *Fortune* 500 companies such as Target and Best Buy. In addition to its role in commerce, I-81 connects a number of tourist attractions of national significance, ranging from the Woodrow Wilson birthplace in Staunton to Shenandoah National Park. Annually, Shenandoah National Park hosts two million visitors.

The geography of the Shenandoah Valley, the Roanoke Valley, the New River Valley and other areas along the corridor, with mountains on both sides of the road, has turned I-81 into the "Main Street" for western Virginia. Many people living in this region must use the interstate to carry out their daily lives. It is a road that cannot be bypassed and there are few, if any, viable alternatives for residents or even for people just passing through. I-81 is **the** lifeline of western Virginia.

One of VDOT's core values is to provide safe and efficient movement of people and products throughout the state's transportation system. Our concept to separate heavy trucks and passengers along the I-81 corridor supports VDOT in achieving this important goal.

With the heightened accountability of VDOT to its constituencies in providing responsive action and an efficient transportation system, STAR Solutions will hold itself no less accountable to VDOT's high standards in delivering the I-81 improvements on time and on budget. In our continuing dialogues with I-81 community leaders, we have developed a vast body of knowledge of what the various communities need and expect in terms of linking their local transportation networks with I-81 and are taking those issues into consideration in our plans and designs. The result is that all affected communities will benefit in ways that are most effective for them wherever feasible.

STAR Solutions' I-81 Project offers numerous benefits, with enhanced safety being the most significant aspect. Expanding I-81 from two to four lanes in each direction is a plan for the future. Greater capacity addresses the anticipated growth in traffic volumes. Separating trucks from cars reduces the potential for accidents. Tackling the construction in several large phases, instead of multiple incremental steps, helps to reduce work zone accidents. Finally, by relieving congestion, travel time savings occur. This makes the road more efficient and attractive to residents, tourists and business owners. The following paragraphs detail some of the major public benefits of STAR Solutions' proposal.

Maintenance of the Integrity of the Interstate Highway System

As one of the oldest interstates in the country, and one built primarily to connect small rural cities, I-81 was not designed to address the traffic it now carries. Traffic jams are frequent around Roanoke and other cities along the route. Truck traffic at certain interchanges causes huge

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backups. Ramps not designed to handle large truck volumes are the site of numerous truck accidents. Accidents along the narrow and rolling route are frequent, and delays of four to five hours are common. Because of these accidents, traffic is diverted onto Route 11 or other local roads, conflicting with pedestrians, school buses, emergency vehicles and other local traffic.

The STAR Solutions' I-81 Project addresses all these problems. By adding much needed capacity to I-81 and separating trucks from cars, the most pressing safety and congestion problems are resolved. Creating truck-only interchanges will also produce safety improvements and reduce congestion. Our plan for tolling heavy trucks by "boothless" electronic means will avoid problems associated with tollbooths. All of this results in maintaining the integrity of the interstate highway system – a top priority for both the federal and state transportation agencies.

Reduction of Accidents and Congestion

Safety problems abound on all of I-81 in Virginia, but some stretches have a particularly tragic accident rate. The five-mile section near the Arcadia exit in Botetourt County has been the scene of 14 fatalities in the past four years. The stretch of I-81 from Rockbridge to Wytheville saw 10 deaths in 2001.

> *"Wreck on I-81 claims the life of W&L senior. The death marked the 11th this year on the stretch of Interstate 81 between Wythe County and Rockbridge County."*
> *December 3, 2002, Roanoke Times.*

The STAR Solutions' I-81 Project will help resolve many of the problems that now cause accidents on I-81. No road can be made accident-free, but by separating heavy trucks and passenger vehicles and implementing intelligent transportation systems technology and other safety improvements, lives can be saved.

Consistent With VDOT Improvement Plan

As previously outlined in Tab 4, this project is consistent with the recommendations for improving I-81 made in the VDOT studies completed in 1998. In fact, this plan goes one step further. Not only is additional capacity created, but safety is greatly enhanced.

Further, this plan helps to fulfill the vision for improvements to I-81 that was a part of the Virginia Transportation Act of 2000. That statute provides $75 million for immediate safety improvements along the corridor, a down payment on the eventual upgrade of the entire road.

VDOT's decision in August 2002 to issue a solicitation for PPTA proposals for the I-81 project signals the agency's interest in immediately resolving the problems associated with I-81. Unfortunately, declining state and federal revenues mean that a traditional solution is unlikely. That is why STAR Solutions has developed an innovative finance and construction plan to deliver the needed improvements now.

Consistent With Local Jurisdiction Improvement Needs

During the STAR Solutions' meetings with city and county officials, significant discussions were held concerning the respective access needs of the communities and how construction on I-81 may impact them, particularly along the major cities, existing interchanges and any planned

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future local construction. STAR Solutions has taken those local transportation needs into consideration to not only minimize impacts to local traffic flow but to complement the future plans of adjacent transportation facilities, such as the configurations of collector-distributor roads, overpasses and number of sound walls.

Funding Plan Addresses Long-Term Needs

By relying on the existing sources of transportation funding in Virginia, the residents along I-81 would have to wait a long time before seeing the kind of transportation improvements needed to make this highway safe again. The need for transportation funds in the Commonwealth is great, and other pressing projects, such as the Woodrow Wilson Bridge, widening of I-64 on the Peninsula, the completion of the Mixing Bowl and the Third Crossing, are placing significant strains on the existing funding streams. Further, the failure of the recent transportation referenda will place further pressure on existing revenue sources to support transportation projects. Without a dedicated source of funding, I-81, despite the great need, will only receive spot improvements. In fact, the recent revisions to the Six-Year Improvement Plan further reduced the amount of funding available for those limited projects.

The STAR Solutions' innovative funding plan represents an opportunity to provide immediate safety enhancements along I-81 without stretching VDOT's ability to simultaneously fund other regional transportation priorities.

Our finance program solves this dilemma and allows for safety enhancements to be made almost immediately along the entire route. After reaching a comprehensive agreement with STAR Solutions, construction of improvements such as truck climbing lanes, longer on- and off-ramps and other enhancements could begin.

Further, our funding plan, along with the 20-year pavement reconstruction and rehabilitation agreement, provides a way to continue to maintain this asset as it is built. This not only helps to preserve the road, but may also improve safety.

5.b Economic Benefits

Describe significant benefits to the state's economic condition. Discuss whether this project is critical to attracting or maintaining competitive industries and businesses to the state or region.

A project of this magnitude will have a significant and dramatic impact on the economy of the region and the entire Commonwealth. While much of the region has enjoyed the economic prosperity of the past decade, pockets of unemployment still exist. Not only will the construction of the road itself create tens of thousands of new jobs, but it will open up new tourism and economic development opportunities along the entire corridor. As previously outlined in Tab 4, reducing congestion and improving safety also has direct economic benefits to commuters and truckers along the route.

5.b Economic Benefits

Describe significant benefits to the state's economic condition. Discuss whether this project is critical to attracting or maintaining competitive industries and businesses to the state or region.

Economic Impact of I-81 Widening

An American Road & Transportation Builders Association report released in 1999 shows that every $1 billion invested in highway construction results in $2.05 billion of economic activity and supports 34,400 new jobs. The STAR Solutions' I-81 Project is expected to create many thousands of construction jobs and spin-off jobs in the corridor and across the state.

Completion of the I-81 project would result in more reliable cargo shipment that will enhance economic development already underway in the region and attract new businesses and jobs.

While unemployment is not a problem in some jurisdictions along I-81, there are pockets of joblessness where such an economic boost will be welcome. Localities such as Bristol, Pulaski County, Radford, Smyth County, Washington County and Wythe County all have unemployment rates far higher than the state average. Other jurisdictions near the highway, such as Dickenson County, Henry County and the City of Martinsville have some of the highest unemployment rates in the nation. The new jobs that will be created will provide opportunities to thousands in Virginia.

Economic Development

During the past eight years, economic development activities have flourished in the I-81 corridor, bringing thousands of new job opportunities and millions of dollars of new investments. Over the past two years, companies such as Bristol Compressors, V&S Bristol Galvanizing, Bristol Brass, Northwood Manufacturing, Maple Leaf Bakery, Hershey Foods, Echostar, McKee Foods, SYSCO Foods, Pepsi Bottling, U.S. Foodservice, Universal Companies and Heat Transfer Specialties have all announced significant new facilities or expansions. I-81 is also the home of Virginia's burgeoning automobile parts manufacturing sector.

Yet despite this economic growth, many of the industries along the corridor are facing tough times. Companies such as R.R. Donnelly, Norfolk Southern, Haleos, Kollmorgen, Optical Cable, Acterna and Internet have announced significant layoffs, driving unemployment rates higher in their host communities. The recent avian influenza epidemic cost farmers in the region more than $100 million. The construction of I-81, and the employment opportunities it creates, will have a stabilizing effect on the economy of the entire region. By putting thousands of people to work over the entire construction period, residents will not only be able to weather the current economic downturn, but they will also have safe and reliable job opportunities for many years to come.

The STAR Solutions' I-81 Project also facilitates the generation of new economic development product along the corridor. The success of the New River Commerce Park in Pulaski County will be enhanced by this project. Further, the separation of I-81 and I-77 in Wytheville is expected to facilitate the construction of a new industrial park there. STAR Solutions will work closely with economic development and chamber of commerce officials throughout the region to ensure that they are fully informed about our project's activities so they can use this in developing new products and to enhance their marketing efforts. Much of the I-81 corridor is also part of Virginia's Technology Corridor as designated by the General Assembly. If VDOT selects the option to install fiber optic cable along I-81, affected localities may attract new industries that rely heavily on information technology.

5.b Economic Benefits

Describe significant benefits to the state's economic condition. Discuss whether this project is critical to attracting or maintaining competitive industries and businesses to the state or region.

Further, it is our belief that improvements to I-81 — by improving safety and reducing congestion — will make the corridor even more attractive to additional economic development in the future. There is no documented evidence that tolls chase away business. In fact, just the opposite is true. Tolls often facilitate better roads, which lead to increased growth. Dana Kingsley, a dispatcher for Pepsi's Orlando distribution center told *Plants, Sites and Parks* magazine, "It's just as easy to have a truck running 65 mph down a toll road than go on [a surface road], going slower and spending more on gas and chance a congested accident."

During the past years, members of the STAR Solutions team have met with many of the local and regional economic development officials in the I-81 corridor, as well as briefed the staff of the Virginia Economic Development Partnership, regarding the proposal's many benefits. We plan to continue this inclusive process to keep people informed about the team's plans and to solicit ideas for additional ways to enhance economic development activities.

Tourism

Tourism is an economic force along the I-81 corridor. In 1999, the latest year for which complete statistics are available, traveler spending in the counties along I-81 exceeded $1.24 billion. That spending has been growing at nearly five percent each year. Tourism activities employ 17,422 people along I-81, thus many families have a direct connection to the industry. Making I-81 safer, more efficient and more accessible will only further boost tourism opportunities along the corridor.

The decision by the American Automobile Association (AAA) Mid-Atlantic to endorse the separation of cars and trucks along I-81 in February 2002 shows how important the STAR Solutions proposal is for tourism. Since millions of motorists rely on AAA for travel advice, their recommendations on routes have a significant impact on what attractions people visit. Many tourist officials in the I-81 corridor have been concerned that unless improvements are made soon, AAA would recommend that motorists avoid the route altogether. Such a recommendation would have a devastating impact on the tourism industry throughout western Virginia.

Accountability to VDOT and the Communities

For the maximum economic development benefit to be achieved, the I-81 corridor communities must be kept abreast of project progress. Businesses wishing to locate or expand in the area need to have both current and projected project status to establish the potential impact to their business plans. Commuters, tourists and motorists passing through will also want the most current information as well in planning their drives. The STAR Solutions project management team will hold itself accountable to both VDOT and the I-81 communities by providing quarterly progress reports and continuous updates for VDOT and business and community leaders as appropriate. While VDOT is our customer in any comprehensive agreement, our ultimate customers are the people who use I-81, and we will continue our efforts to be responsive to their needs and accountable to their desire to see a safer and less congested road.

Sample Letter Sent to Affected Jurisdictions

January 15, 2003

[Addressee]

Enclosed please find the Executive Summary and a CD containing a copy of the STAR Solutions' conceptual proposal submitted to the Virginia Department of Transportation to design, build, finance and operate the widening of Interstate 81, provide a 20-year pavement warranty and operate an electronic truck tolling system. This proposal has been submitted pursuant to the Public-Private Transportation Act of 1995 (PPTA) and the VDOT Implementation Guidelines.

Please note that Tab 3, entitled Project Financing, has been omitted from this submission. VDOT has agreed that Tab 3 is confidential and is not subject to release. Similarly, if you agree that this information is confidential and exempt from all Freedom of Information Act requests, STAR Solutions will be pleased to forward Tab 3 to you.

We look forward to working with you on this important project of widening I-81. Completion of this project will improve the safety and efficiency of the highway.

Please do not hesitate to call me at (804) 225-0530 should you have any questions regarding this submittal.

Sincerely,

James W. Atwell
STAR Solutions Team Member

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